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The Michigan-Wisconsin Boundary Case in the Supreme Court of the United States, 1923-26¹

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"The business of a cartographer, or map-maker, is to describe land forms, not to settle titles of particular sovereignties to particular parts of the earth's surface." [From argument for defendant in *La. v. Miss.* in 1906 (202 U. S. 31).]

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¹ Presidential address before the Association of American Geographers, Columbus meeting, December 1929. Based upon studies in 1929 and upon the writer's private work as a witness and as an expert assistant and special agent of the Attorney General of Wisconsin in 1923-26 in connection with the case of the State of Michigan, plaintiff or complainant, versus the State of Wisconsin, defendant, in the Supreme Court of the United States [Original No. 25 in equity, October term, 1923; No. 19, October term, 1925; No. 9, October term, 1926].

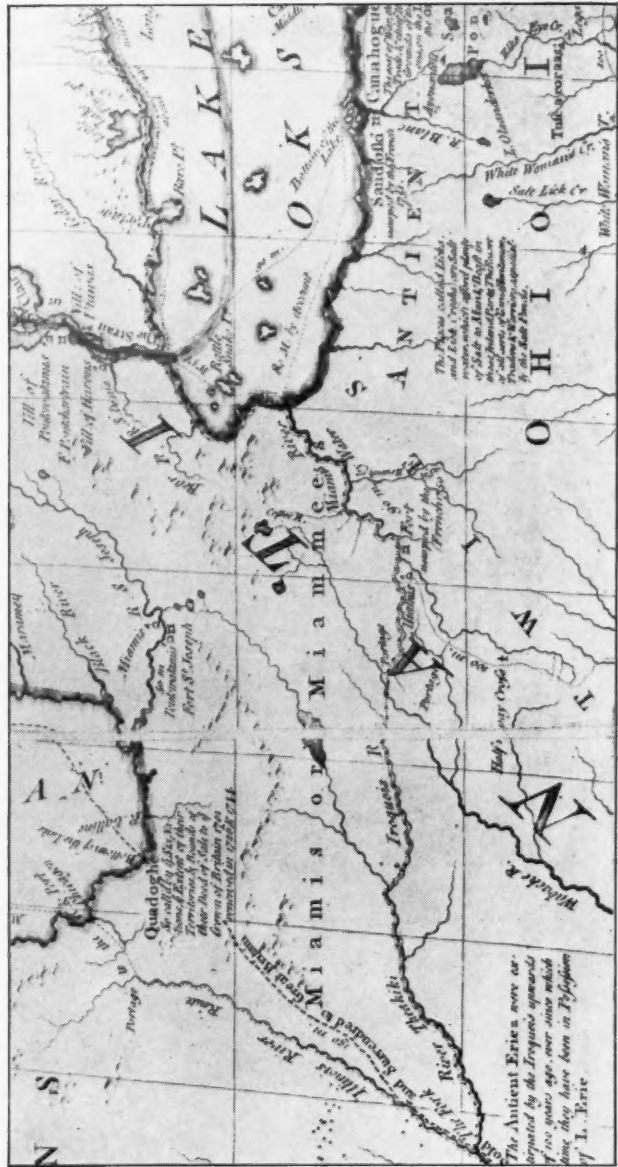


FIG. 1—Part of Dr. John Mitchell's "Map of the British and French Possessions in North America," published in 1755.

Introduction

The application of physiography and geography to public business is illustrated by many features of the boundary suit between the States of Michigan and Wisconsin which was acted upon by the Supreme Court of the United States in 1926. The matter is fairly novel for geographers. The materials are in few instances outside our field. The case demonstrates how lawyers, geographers, engineers, legislators, soldiers, Indian guides and pilots, and members of other occupations and professions can work together. It shows some of the simple uses of maps. It reveals the elementary nature of what constitutes material evidence in our highest judicial body. It brings out the factor of accident, the results of unthoughtful phraseology of laws, of historical narratives, &c., &c. It enables one to deny the validity of the conclusion of our learned brother in the law whose words are written at the head of this paper. The phrases quoted seem to be Mr. Chief Justice Fuller's statement of part of the argument for the defendant, the State of Mississippi, in an earlier boundary dispute. Of course a cartographer is one sort of a person and a geographer is another.

All in all it appears to the President of the Association of American Geographers that the Michigan-Wisconsin boundary case is singularly instructive. Nor is it devoid of general applications to other State boundaries, and to the problems of international frontiers, showing, as it does, that geographical caution should be exercised by lawyers, legislators, and geographers.

The case arose some time between 1755 and 1923. Suit was actually brought six years ago. But it would not be inexcusably far-fetched if one said that the compilation of a map published in England in 1755, led more or less directly to this suit. The father of the suit, upon this theory, might be averred to have been a Virginia physician named Mitchell. Its parents might be said, with equal warrant, to have been the members of the committee of our Continental Congress who framed the Ordinance of 1787, an unnamed trapper in Illinois, the Senators, Representatives, and Delegates in the Congress of the United States in 1802, the worthies who made up the Ohio Constitutional Convention which was held at Chillicothe in November, 1802, the people of Toledo, various executives and legislators in Ohio, Michigan, and Washington, D. C., in 1834-38, and especially in 1836-37 when Michigan was admitted into the Union, and in 1838 when Congress

ordered the boundary between the State of Michigan and the Territory of Wisconsin to be marked, Captain T. J. Cram in 1840-41, various members of Congress in 1846 and 1848, Douglas Houghton, George H. Cannon, or Peter White. Or were the three fathers of the suit a lawyer in Menominee, Michigan, his son who served in the World War and subsequently in the Michigan legislature, and a private secretary of President Wilson? That is another tale.

Since Mitchell's map of 1755 (Fig. 1) placed the south end of Lake Michigan too far north, since this led Ohio, whose northern boundary was fixed by the Ordinance of 1787 as an east-west line tangent to the south end of Lake Michigan, to consider herself entitled to the present city of Toledo, since Michigan was given her whole Upper Peninsula in 1836 (Fig. 2) in lieu of Toledo, and since Congress described the Michigan-Wisconsin boundary hurriedly in 1836, with incomplete hydrographic information—in view of all this let's play that Mitchell's map of 1755 caused this suit.

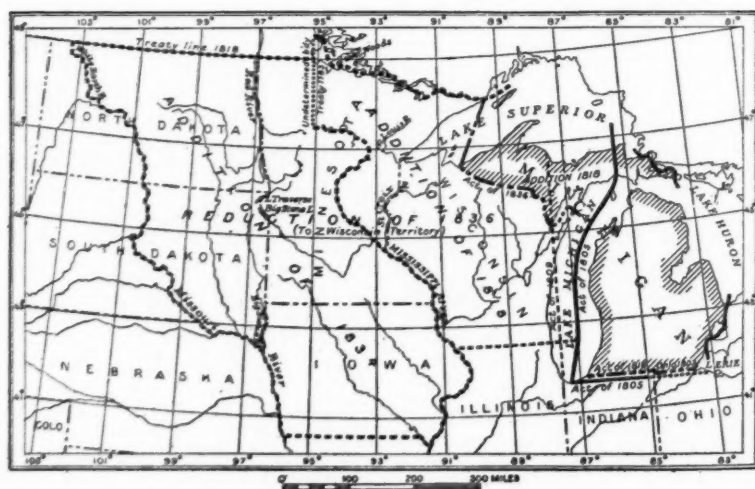


FIG. 2—Map from Bulletin 689, United States Geological Survey, page 173, showing the relation of the Michigan-Wisconsin boundary suit of 1923-26 to the Ohio-Michigan boundary dispute of 1836. Note the position of the south end of Lake Michigan with respect to that of Toledo at the mouth of the Maumee River near the west end of Lake Erie, and compare with Fig. 1.

Throughout a period of 180 years the case gradually developed. The contact with this frontier difficulty of each of the individuals referred to above is unmistakable, albeit, as is often the case in boundary matters, their relations to the Michigan-Wisconsin boundary case of 1923-26 were more or less accidental.

The Special Counsel for Michigan in this case was Alvah H. Sawyer of Menominee and, subsequently, Meredith P. Sawyer, his son. The Special Counsel for Wisconsin was Robert M. Rieser of Madison. The Attorneys General at this time were Andrew B. Dougherty for Michigan and Herman L. Ekern for Wisconsin. These lawyers assembled the evidence here outlined and drew up the briefs and arguments. Their respective States owe much to them for competent performance.

AREAS, VALUES, AND POPULATION INVOLVED

Land and Water Areas.—Michigan's Bill of Complaint in 1923 avers that Wisconsin "has possessed itself of and exercised sovereignty over a large part of the waters of Green Bay that are within the grant to the State of Michigan and over numerous islands of the said Green Bay . . . including Washington Island with a territory of about 15,000 acres or more, Chambers Island with a territory of over 3,000 acres, Plum Island, Strawberry Island and numerous other valuable islands" (Fig. 3).

Captain Thomas Jefferson Cram estimated in 1842 that there were 131 islands in the Menominee River and said "18 of the principal ones contain 2,304 acres." All these and the islands in the Brule River were under litigation in 1923-26 (Fig. 4).

Michigan considered in 1923 that the area claimed by her near Lac Vieux Desert and the Montreal River aggregated 235,000 acres. It is really 296,320 acres or 463 square miles (Fig. 5).

The combined area in the three sections she placed at "approximately 255,000 acres." If this were all—and it is underestimated and incomplete as to the river islands and omits the water areas in Green Bay—a land area substantially equivalent to half of the State of Rhode Island was involved. Exclusive of the water area, the region in dispute was a fourth larger than the aggregate of four independent countries in Europe—Andorra, Liechtenstein, San Marino, and Monaco.

The water area, however, which Michigan claimed was about 791 square miles. The total disputed area was 1,291 square miles or more than the total area of the little State with the long name, the State of Rhode Island and Providence Plantations, which sup-

plies two Senators and three Representatives to the Congress of the United States and the competent and popular Vice President of the Association of American Geographers for 1929.

Lengths of State Boundaries Disputed.—Almost the whole northern border of Wisconsin was attacked during this judicial battle. Upon nearly every mile of it Michigan was attempting to advance her frontier southward. The sole exception was along a few miles of the lower Montreal River just south of Lake Superior.

The water boundary in Lake Michigan and Green Bay is at least 74 miles long; the lengths of the Menominee River and the Brule are given by Captain Cram as 122 and 54 miles respectively; the two straight-line boundaries add up to 64 miles; more than 16 miles of the course of the Montreal River were involved. The total of the boundary claimed by Wisconsin was 330 linear miles more or less.

Accordingly the Michigan-Wisconsin boundary dispute of 1923-6 involved a line of battle as long as from the District of Columbia to Columbus, Ohio, or from Columbus to Milwaukee. Not nearly so many homes were involved, but the northern boundary of Wisconsin which was in jeopardy was about three-fifths as extensive as the combined German frontiers of The Netherlands, Belgium, and Luxemburg.

The Spoils Awaiting the Victor.—If Michigan were to win this suit she would possess herself of arable lands and prosperous people on the islands of Green Bay, including the sturdy Icelanders of Washington Island, America's chief Icelandic colony. She would gain profitable summer resorts. Additional fishing banks of substantial extent would be hers.

In the Menominee River and the Brule, Michigan stood to gain and Wisconsin to retain hydroelectric power sites of high potentiality. Michigan also hoped to retain industrial property in one of her thriving cities to which she held a clouded title, as will appear later. The Menominee River descends about 700 feet in 104 miles along the State boundary. Its flow in 1902-5 near Quinnesec Falls was 10 to 15 thousand cubic feet per second. There were 14 important rapids and descents over dams. Most of the water powers developed up to 1908 were used in mining and in the operation of lumber, pulp, and paper mills. The Brule descends 260 feet in 42 miles with rapids or "strong water" nearly all the way. One small island among the 130-odd river islands which were in dispute between the two States was assessed at

\$5,847 in 1863, at \$89,426 in 1900, and at \$805,000 in 1925. Of course this was the one urban island.

The spoils awaiting Michigan in northern Wisconsin were a terminal moraine of undemonstrated agricultural value, say half good and half low. This land may be adapted eventually to dairying and livestock farming, after all good lands elsewhere are taken up. It is now covered with second-growth forest. She would acquire, if victorious, some upland lake resorts which attract more summer visitors every year, more fishermen, and each autumn more hunters. In the disputed portion of Vilas County, Wisconsin, alone, there are 116 good-sized and 56 small lakes, or 172 bodies of water upon the shores of many of which property sells, not by the acre, but by the front foot. Michigan hoped to add to her mineral wealth, not gold nor precious stones, but iron. A row of deep iron mines along a narrow strip of the Penokee-Gogebic Range constituted one of the substantial prizes. The area which these mines occupy is unimpressive. The taxes which their owners pay might make any State Treasurer's mouth water.

Taxes—there geographers may find one key to the appetite of Michigan for gaining and of Wisconsin for retaining. In 1924, according to Wisconsin testimony, the assessed value of one small city and five adjacent towns in the disputed area was about \$7,300,000. In 1923, following Michigan's estimate, Wisconsin was holding one huge block of lands which Michigan claimed and thought to be worth in excess of \$10,000,000. Indeed Michigan said frankly in her Bill of Complaint that her neighbor had "unlawfully taxed and still continues to unlawfully tax said property, and the taxes assessed thereon have been paid and continue to be paid to the State of Wisconsin, while of right the State of Michigan is entitled to levy and collect taxes thereon." Taxes, indeed; why the increase in assessable property would have quickly paid back many times the total cost of this suit if the State of Michigan had won the broader acres, the mines, the waterfalls, the summer resorts, and the fishing grounds to which she aspired.

Population Involved.—No great number of persons was involved. Washington Island had 923 inhabitants in 1920; the adjacent islands had nine more. Let's add 68 or so for Chambers Island, the Strawberry Islands, and 130-odd islands in the Menominee River and the Brule. The island portion of the city of Menominee which was involved has a sugar beet factory, a coal yard, slips, wharves, etc., but not many residents. Much of the remaining territory has few villages and sparse rural population, or is

unoccupied by man, for northern Wisconsin is still a pioneer belt. The portions of Forest, Vilas, and Iron Counties which Michigan claimed in 1923 had about 2,712 inhabitants more or less, exclusive of the city of Hurley with 3,188.

The security and peace of mind of these 6,900 individuals, however, red men and white, fishermen and mine owners, were exactly as dear to the governors, attorneys general, and legislatures of Wisconsin and Michigan as if the population had been numbered in hundreds of thousands. Michigan did not claim, of course, that the 237 Icelanders on Washington Island were being oppressed. Wisconsin was not accused of making them buy and ride exclusively in Nash cars made in Racine rather than in Fords made in Detroit. Wisconsin was not forced to sign a minorities treaty, when the boundary suit was ended, agreeing to permit the 37 or more Chippewa Indians who lived in 1920 in the portion of the disputed area near Lac Vieux Desert to worship their own Manitou, dance their own tribal dances, and send their children to utraquistical schools.

But, as in all cases between our States, the comfort and security of human beings was at stake. A Wisconsin man from the Michigan border would just as soon serve in the National Guard of Michigan as of Wisconsin. No doubt the 6 men from Washington Island who were drafted and recruited by the Adjutant General of Wisconsin during the Civil War were just as happy and well fed as if they had been drafted with Michigan troops. A child would get as good an education in one State as in the other. But how about a man's property? His deeds were recorded in one State and State laws are not uniform in all respects, particularly in the States of the aggressive and liberal Middle West. It would take time to make the multitude of minor adjustments if the State boundaries were changed.

And then there were the community rights and the interests of adjacent areas. One actual case will suffice to illustrate both. A school district lying partly inside and partly outside the disputed area was assessed at \$7,675,698 in 1924. Since 1916 it had had outstanding bonds aggregating nearly \$150,000. By law it was limited to an indebtedness not in excess of 5% of the assessed valuation of the school district. If a moiety of its territory were to be taken away by a change in the State boundary, the remainder of the school district would not have sufficient valuation to sustain the outstanding bonds. Meantime, schools were so crowded that a new 12-room school was needed. An additional bond issue

of \$100,000 was contemplated. If the State boundary were to change, the State law would prevent the building of the school and hamper the education of the youth of the community. Of course such matters were adjustable. The well-to-do State of Michigan could help the school district to carry its bonds. The progressive State of Wisconsin could make a grant or even change the laws if necessary to avoid hardship to school children. If it was *right* for Michigan to have the territory she claimed in 1923, nothing should stand in the way.

Indeed the population of the disputed area in Wisconsin was interested in the boundary suit. A geographer refrains from stressing the pride of either State in retaining or gaining territory. The real spoil awaiting Wisconsin in case she were to be victorious in the case, and retain all the territory she had had throughout her independent history was a happy and contented people upon her northern marches.

HOW STATE BOUNDARY CASES ARE HANDLED

General.—The Supreme Court of the United States, as a court of first instance, settles all disputes between the States which are submitted for judicial settlement. The States may agree between themselves, however, through joint commissions appointed by their governors after authorization by their legislatures, and the legislatures may subsequently approve the joint settlement. New York and Connecticut, as well as Maryland and Virginia, have recently proceeded in this way. The New York-Connecticut agreement was also approved by Congress, and the Maryland-Virginia agreement will be so approved. The Oregon-Washington boundary dispute, not completely settled by the Supreme Court after two periods of consideration, is progressing toward settlement by Congress.

For a judicial settlement the Supreme Court has the States concerned take the following steps. Remember that, using the quaint language of lawyers, this is a *cause* rather than a *case*. In this cause, Michigan begged leave to and then submitted a Bill of Complaint. The court agreed to hear the cause. After Wisconsin had moved for dismissal of the action, and other legal shadow-boxing had been completed, the cause was under way. The court appointed a Special Commissioner "to take proofs offered by the respective parties to said cause and to report such proofs." Then the giving of testimony and the authentication of exhibits began.

Oral Testimony by Witnesses.—No testimony was taken at Washington, D. C., where the Supreme Court sits. The Special Commissioner moved from city to city in Wisconsin and Michigan at the convenience of the witnesses and of the Attorneys General and Special Counsel of the two States. The places where hearings were held and witnesses testified included three points in the disputed area, Detroit Island, Washington Island, and the city of Hurley, as well as the cities of Sault Ste. Marie, St. Ignace, Menominee, and Detroit (Michigan), and Madison (Wisconsin). The taking of testimony occupied 15 days during a period of 11 months in 1924-25. Fifty witnesses were introduced, 24 by the plaintiff and 26 by the defendant.

The witnesses were all sorts of people, falling generally into two groups. The first were eye witnesses and memory witnesses—old settlers, shipmasters, sailors, pilots, fishermen, lighthouse keepers, priests, Indians, and such persons. The other group included the expert witnesses; some of them were city, county, State, or federal officials who brought photostat copies of pertinent existing records and testified as to their authenticity and their bearing upon the matters at issue; others brought maps, graphs, photographs, and tabular comparisons which had been especially prepared for this case, explaining how they had been made and what they were alleged to prove. Such materials were introduced as exhibits. Still other expert witnesses had studied the exhibits and the briefs of the other side and sought to nullify them or to bring out unexplained things that they showed. The experts were geologists, civil engineers, hydraulic engineers, registers of deeds, abstracters of titles, county clerks, timber cruisers, school officials, photographers, historians, and even a shy but talkative geographer.

Testimony for the Supreme Court before a Special Commissioner runs to informality in comparison with most court procedure. An expert stenographer, usually a court reporter, takes the testimony in shorthand. In the course of weeks of hearings the proofs desired by the Supreme Court are built up by the testimony of witnesses and the introduction and interpretation of exhibits.

Types and Sources of Exhibits and Other Evidence.—In a diversified and long boundary case like that between Michigan and Wis-

consin in 1923-26 the types of evidence range through laws, histories, diaries, books of travel, petitions, maps, etc.

In time, the material evidence bearing upon the Michigan-Wisconsin boundary suit runs back from the present day through three centuries, including the visits to Green Bay or Lake Superior of Jean Nicolet in 1634, of Pierre d'Esprit, the Sieur Radisson, in 1661, of La Salle and Father Hennepin in 1679, of Pere F. X. de Charlevoix in 1721, of Jonathan Carver in 1766, of Washington Irving in 1810, and of scores of others who saw and recorded things that bore upon the determination of this boundary case in 1926. Not all of such evidence was actually introduced, however. The diary of François Victoir Malhiot, a fur trader in northern Wisconsin in 1804, bears decidedly upon the problem of Lac Vieux Desert, but it was little used since this matter was settled in many other ways. H. R. Schoolcraft's record from Sault Ste. Marie of a war between the Sioux and the Chippewas in 1824 and the white man's scalp in the little black coffin was not introduced at all. Evidence is always winnowed in order to retain the best.

The sources of evidence included papers in archives at Lansing, Ann Arbor, and Detroit (Michigan), Madison and Green Bay (Wisconsin), Ottawa (Canada), Columbus (Ohio), Buffalo (New York), Washington (D. C.), and many other cities. Substantial proportions of the evidence came from unpublished manuscripts. The historical societies of the two States were rich mines of evidence. Various bureaus in Washington supplied pertinent documents. Both sides used the Library of Congress extensively for maps. Michigan drew from it at least 14 maps which she could not locate in any of the Michigan libraries; Wisconsin secured an even greater number of map exhibits at that institution. Evidence is everywhere. One finds it where one finds it.

Briefs and Arguments by Attorneys General and Special Counsel.—At various stages in the course of this boundary suit the Attorneys General of Michigan and of Wisconsin and the Special Counsel of the two States wrote their briefs and arguments. These are crammed full of applied geography as well as of law. They constitute a verbal duel.

It surprises one to see how simple the geography in them is. It is not the technical geography of our guild that attorneys and judges want. It is our a-b-c geography, the relation of places to each other. One advances to a bit of technical physiography or

complicated economic geography now and then, or to a puzzling series of steps in identifying localities through a maze of place-names, but only to go back and present simple geographical relationships. Doubtless it is so, also, with the legal questions, though in law there appeared to be more technical pitfalls to be avoided.

The frequency of the element of accident is also impressive to a geographer. Sheer chance very frequently makes a witness worth hearing or a piece of evidence material. It is disheartening also to observe how often carelessness, thoughtlessness, or inattention to detail makes an old law or an historical statement ambiguous, and how frequently they lead to subsequent litigation.

The mass of printed briefs and arguments is appalling. In the Michigan-Wisconsin boundary case of 1923-26, for example, the two States unblushingly laid before the Supreme Court at one time or another the following:

	PAGES	MAPS
(1) Michigan's Petition for Leave to file Bill of Complaint..	6	—
(2) Michigan's Bill of Complaint, Oct. 8, 1923.....	46	5
(3) Wisconsin's Answer to Plaintiff's Bill of Complaint.....	18	—
(4) Michigan's Replication	1	—
(5) Wisconsin's Notice of Motion for Dismissal of Action, Jan. 31, 1924, and Motion for Dismissal of Action....	5	—
(6) Wisconsin's Brief on Motion to Dismiss.....	xx, 105	27
(7) Michigan's Brief in Opposition to Defendant's Motion to Dismiss this Action.....	v, 143	—
(8) Michigan's Affidavit, March 13, 1924.....	5	—
(9) Stipulated Transcript of Record (Transcript of Testi- mony of Witnesses; Defendant's Exhibit 380; three Stipulations)	iii, 603	4
(10) Exhibits (2 albums of Michigan's 181 Exhibits; 2 albums of Wisconsin's 380 Exhibits; mostly typewritten copies or photostats of maps, laws, documents, letters, pages from books, etc.).....	1,407	215
(11) Brief for the State of Michigan.....	vii, 206	7
(12) Brief for Defendant, State of Wisconsin.....	viii, 388	5
(13) Supplement to Brief of Defendant, State of Wisconsin (folio, no text, 3 photographs).....	—	31
(14) Reply Brief for the State of Michigan.....	i, 24	5
(15) Reply Brief of Defendant, State of Wisconsin.....	13	—
Total	3,014	299

Accordingly the two States delivered to the Supreme Court in all some 1,607 printed pages of evidence of and arguments concerning their respective contentions, together with 1,407 pages of exhibits, 32 photographs, and several graphs. There were 215

maps among the 561 items of the exhibits, but only 84 of them were printed with the briefs and arguments.

While writing this paper the President of the Association of American Geographers has had the privilege of studying all the unprinted exhibits, now on deposit in the Division of Maps at the Library of Congress.

The short argument before the Supreme Court followed the lines of the briefs of the two States and of sympathetic but searching questions from the Justices. As will be seen below, under the discussion of the boundary award, the Supreme Court digested in less than two months this mountain of legal, geographical, historical, and other material which has been piled up during a period of twenty-seven months, indicating its decision in an Opinion of eighteen printed pages and a Decree of two pages.

ISSUES AND EVIDENCE IN THIS CASE; LAKE ISLANDS

The Most Usual Ship Channel Into Green Bay.—By what route, in the year 1836, did ships usually go from Lake Michigan into Green Bay? Michigan thought in 1923 that it was by the *Porte des Morts* Passage, popularly called *Death's Door*. Wisconsin said it was by the *Rock Island Passage*, about 13 miles farther north (Fig. 3). Five islands lie between these two straits, including Washington, Rock, Detroit, Pilot, and Plum Islands. Congress told Michigan on June 15, 1836, that her boundary was to run through the "most usual ship channel" from Green Bay to Lake Michigan. Congress had said to Wisconsin less than two months before, on April 20, 1836, that her boundary was to run through the "main channel" from Lake Michigan to Green Bay.

The laws establishing the boundary are worded as follows:

From Public Statutes at Large, Chapter LIV, approved April 20, 1836: "Be it enacted, by the Senate and House of Representatives of the United States of America in Congress assembled, That from and after the third day of July next, the country included within the following boundaries shall constitute a separate Territory, for the purposes of temporary government, by the name of Wisconsin; that is to say: Bounded on the east, by a line drawn from the northeast corner of the State of Illinois, through the middle of Lake Michigan, to a point in the middle of

said lake, and opposite the main channel of Green Bay, and through said channel and Green Bay to the mouth of the Menomonic river; thence through the middle of the main channel of said river, to that head of said river nearest to the Lake of the Desert; thence in a direct line to the middle of said lake; thence through the middle of the main channel of the Montreal river, to its mouth; thence with a direct line across Lake Superior, to where the territorial line of the United States last touches said lake northwest; . . ."

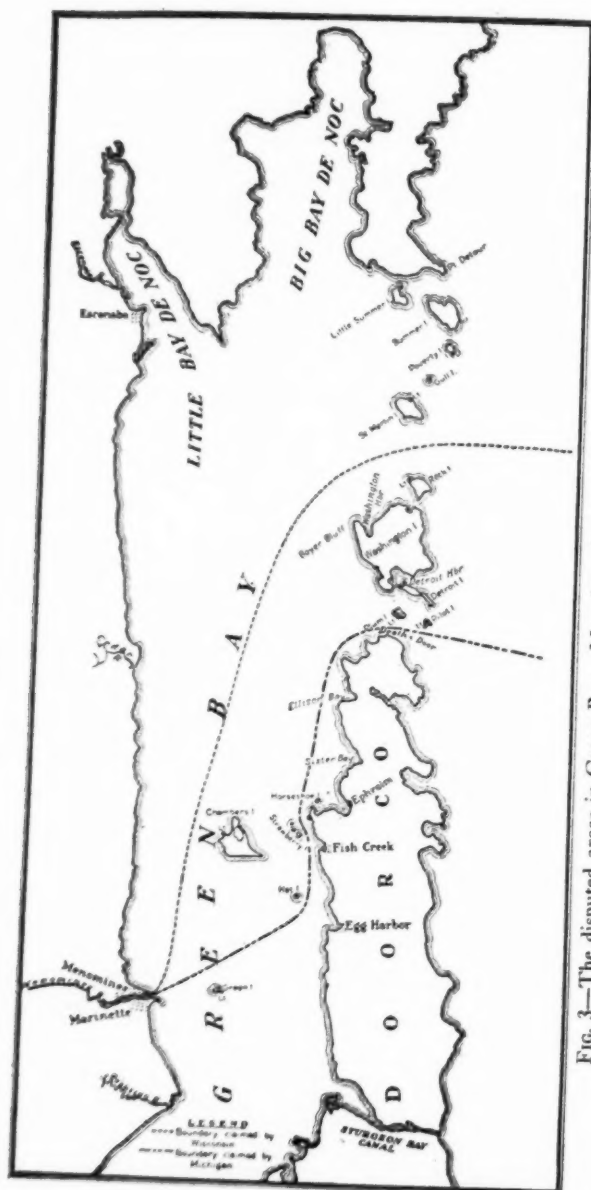


FIG. 3.—The disputed areas in Green Bay. Map from Brief of Defendant, State of Wisconsin.

Ibid., Chapter XCIX, approved June 15, 1836: ". . . thence in a direct line through Lake Superior, to the mouth of the Montreal river; thence through the middle of the main channel of the said river Montreal, to the middle of the Lake of the Desert; thence, in a direct line to the nearest head water of the Menomonic river; thence, through the middle of that fork of the said river first touched by the

said line, to the main channel of the said Menomonic river; thence, down the centre of the main channel of the same, to the centre of the most usual ship channel of the Green bay of Lake Michigan; thence, through the centre of the most usual ship channel of the said bay to the middle of Lake Michigan; thence through the middle of Lake Michigan, to the northern boundary of the State of Indiana . . ."

Without attempting to abstract fully all the claims, evidence, and arguments of Michigan and of Wisconsin, the situation regarding the islands at the mouth of Green Bay may be summarized as follows:

Living witnesses contributed nothing decisive. A ship captain 83 years old in 1924 when he testified, obviously could say little of importance about the most usual ship channel 88 years before, in 1836. Other witnesses who were mariners, lighthouse keepers, fishermen, &c., and who were 62 to 90 years of age in 1924, contributed nothing except hearsay. Even a lighthouse keeper 90 years old had no specific knowledge concerning the ship channels of 1836, since he first came to Green Bay in 1855.

Witnesses no longer living, through diaries, signed petitions, historical narratives, &c., gave more pertinent testimony. The distinguished Douglas Houghton, State Geologist of Michigan, visited Green Bay in 1839. His manuscript notes show that, after he had seen the Porte des Morts Passage, this competent witness recorded his conviction within three years of the fixing of the boundary, that the Rock Island Passage was "the principal Ship Channel to Green Bay." Thirty-eight Detroit merchants and shipmasters, "masters and owners of vessels upon the upper Great Lakes, men of good standing and good judgment," signed a memorial to Congress in 1832, including the statement that "the ship channel in entering the Bay [i.e. Green Bay] is on the North side of this island [i.e. Rock Island]." This was immediately before 1836. Several army transports in 1816, a General in the U. S. Army in 1821, and a missionary bishop of the Episcopal Church in 1834 entered or left Green Bay by way of the Rock Island Passage.

Map exhibits told the same story. Among the most convincing ones were the following: (1) Farmer, a well-known Michigan map maker, published a map in 1830 with a dotted line denomina-

ted "Ship Chan." This line led through the Rock Island Passage. A dot-and-dash line on this map traversed the Porte des Morts Passage but it did not represent a route of ships in 1830 but the route in 1820 of the geologist and Indian Agent, Henry R. Schoolcraft, in a canoe journey from Green Bay to Chicago. This last point was explained by a geographer testifying as an expert witness on maps and geography. (2) Bradford's map of Michigan in 1838 carries a symbol for the Michigan-Wisconsin boundary through the Rock Island Passage. (3) Tanner's map of Michigan in 1832, introduced by the plaintiff in support of another feature of the boundary, was shown by expert geographical testimony on behalf of the defendant to contain a table of steamboat routes and distances which made it clear that the main or most usual ship channel in 1836 did not lead through the Porte des Morts Passage but the Rock Island Passage. Other maps told the same story. Some of them will be mentioned in connection with other types of evidence.

Lighthouse sites in early times furnished another and singularly attractive type of evidence. Living witnesses for Michigan testified regarding their visits to the ruins of a former lighthouse on the Porte des Morts Passage which may have been in operation in 1850. Exhibits, such as appropriation acts of the federal government for the erection of lighthouses, the memorial of the 38 merchants and shipmasters alluded to above, and a map showing all the lighthouses on the Great Lakes in 1848, were introduced by Wisconsin. They proved that the first federal lighthouse on either route from Lake Michigan into Green Bay was built on the Rock Island Passage in 1836-37 after being asked for in an appropriation act of 1832, and provided for in 1834; hence this must have been the principal, main, best, and most usual ship channel in the very year when Congress initially fixed the Michigan-Wisconsin boundary.

A contemporary treaty between the United States and the Ottawa and Chippewa Indians used the words "ship channel into Green Bay" in the description of a cession of land to the United States. This treaty was signed at Washington, D. C., on March 28, 1836, just one day before the U. S. Senate passed the bill establishing the territorial government of Wisconsin and giving the new territory a boundary which was to extend through the "main channel" from Lake Michigan to Green Bay. It seems as if the "ship channel" of the treaty must be the same as the "main channel" of the boundary description in the Senate bill.

That they were identical appears to be proved by a copy of Tanner's map of the United States in 1839 which was annotated in the same year. This was done by an army engineer in accordance with a resolution of the United States Senate which directed the preparation of 12 maps showing the positions of the lands of each Indian tribe in amity with the United States. The line on this map which graphically construes the words of the treaty, "through the ship channel into Green Bay," follows the Rock Island Passage and not the Porte des Morts Passage.

Other federal acts unanimously support the claim of Wisconsin that the five islands between the Rock Island Passage and the Porte des Morts Passage properly belong to Wisconsin. For example the public land surveys of these islands fall into the township and range system of Wisconsin and not that of Michigan.

Wisconsin has administered these islands continuously: (a) she began taxing lands on Washington Island in 1841 and has always taxed the five islands; (b) she drafted soldiers from Washington Island during the Civil War; (c) her legislature organized the islands into the town of Washington in 1855; (d) she supported their schools and courts; (e) she took a census of the islands in 1855; (f) their inhabitants began to vote in Wisconsin in 1858; (g) her Register of Deeds for Door County has recorded 5,607 transfers of land on Washington Island. Meanwhile Michigan silently acquiesced in the administration by Wisconsin, throughout the 87 years from 1836 to 1923, of these five islands and the adjacent waters.

Michigan made much of evidence suggesting that between 1836 and 1850 many sailing vessels and steamers used the Porte des Morts Passage from Green Bay to Lake Michigan. Wisconsin showed, however, that the first lighthouse in the Porte des Morts Passage was not built till 1848, and that, although this passage supplied the shortest route from Green Bay to Chicago, the Rock Island Passage supplied the shortest route from Green Bay to Michilimackinac and Detroit; and, further, that in 1836 there was no traffic to speak of from Green Bay to Chicago.

Michigan gleefully called attention to the words of Captain Cram in 1841 regarding "Death's Door, the entrance of Green Bay . . ." [Exhibit 94], forgetting that her own Exhibit 97 was an 1842 map whose title called Death's Door, or Porte des Morts, "the Southern Entrance of Green Bay."

If the sinister-named Porte des Morts Passage was the main or most usual ship channel into Green Bay in 1836 it is hard to

see why Lieut. G. J. Pendergrast of the Board of Navy Commissioners came back from an inspection trip to Green Bay in 1837 and made such a report as he did. He said there was a lighthouse on the Rock Island Passage, that one was needed on the Porte des Morts Passage, but that there was more urgent need of one on Grassy Island near the head of Green Bay.

Hence, when all the evidence was gathered, digested, and weighed, there appeared to be little basis for Michigan's claim to the five islands south of the Rock Island Passage.

The Boundary Among the Islands within the Green Bay of Lake Michigan.—What was the "main" or "most usual" channel of the Green Bay of Lake Michigan in 1836? Michigan considered in 1923 that it lay in the narrow waters near the eastern side of Green Bay including the channel east of the Strawberry Islands. Wisconsin thought it lay in the broad strait near the western side of Green Bay (Fig. 3). Chambers Island with 3,000 acres, the Strawberry Islands, several reefs, and 418 square miles of waters adapted to fishing were the prizes for which the two States were contending.

The evidence presented by the parties to this suit was similar to that outlined above respecting the five islands near Rock Island Passage. Lighthouses were built later, but the first one was erected in 1853 on Green Island near the western side of Green Bay rather than along the narrow, reef-strewn Strawberry Channel. The width of the straits adapted to the tacking of the sailing vessels of the period between 1836 and 1853 was a factor which made Wisconsin consider in 1924 that the channel west of Chambers Island was the main or most usual ship channel. Today steamships and launches with power easily traverse the well-lighted and thoroughly-buoyed passages east of Chambers Island. The case turns, however, on the sailing practices of the period in and shortly before 1836.

Wisconsin was able to produce specific and material evidence, however. An official report of Lieut. G. J. Pendergrast to the Board of Navy Commissioners in 1837 concludes that a lighthouse in Chambers Island is desirable since the island is "exactly in the track of vessels." The lighthouse was not built then but was erected in 1868, on the western side of Chambers Island. Strawberry Passage is $4\frac{1}{2}$ miles east of the eastern side of this island. Tanner's map of the year 1832, referred to above, places Chambers Island along the most usual steamboat route in that year.

Even as late as 1872, a third of a century after 1836 and four years after a lighthouse was built on the Strawberry Channel, Barnet's Coast Pilot included the warning that "strangers should not pass to the eastward of this island [i.e. Chambers Island] or between it and the Strawberries [i.e. the Strawberry Islands]." It is easy to see that in 1836 the Strawberry Passage was not indubitably a part of the "main channel" or "most usual ship channel" of Green Bay.

Wisconsin also showed that her authorities had administered Chambers Island since early days. The Register of Deeds in Door County, Wisconsin, recorded 1,024 transfers of land on that island. Wisconsin Territory taxed lands on Chambers Island and sold parcels of land for non-payment of taxes. In 1861 residents of this island voted in the election of the judge of a judicial circuit in Wisconsin. Chambers Island was organized as a Wisconsin town soon after 1860. The Adjutant General of Wisconsin drafted one soldier there during the Civil War. Throughout all this period Michigan silently acquiesced.

To a geographer, assuming that the intent of Congress is highly significant, one of the most telling pieces of evidence regarding Chambers Island and the Strawberry group is as follows. One gleans this from a Michigan Exhibit in the present case. In 1842 Senator Porter of Michigan introduced a bill in Congress providing among other things for a boundary running through the "main ship-channel of Green Bay, which passes on the western side of the islands situate therein." In 1843 the Senate Committee on Judiciary, including Senator Clayton of Delaware who had participated actively in 1836 in formulating the Michigan-Wisconsin boundary, reported to the Senate that the bill should pass, and said also that the Porter bill disposes of the difficulties regarding the islands within Green Bay "by making the western channel the boundary, which throws the islands in that bay to Wisconsin." Lamentably, after passing the Senate, this bill succumbed in the House of Representatives. It also passed the Senate in 1844 during the next session of Congress.

Living witnesses, as before, did not furnish the best evidence, since none of them could have been eye witnesses of conditions in or before 1836. A full-blood Menominee Indian squaw, for example, was a witness. This was Mary Ann Cota. Her father was Chief Kewaskum; the name is said to mean Turning Back in His Tracks, or His Tracks are Homeward. In 1824, when she

testified, she was 68 years old and had always lived on one shore or the other of Green Bay. Her husband had been a sailor. She said, partly by signs, that in the days of her youth, say in 1870-80, the boats always went up the eastern side of Green Bay. Her son, an intelligent Menominee half-breed, born in 1877, was another witness. He asserted that his grandmother lived to be 130 years old and that he himself was the greatgrandson of an Indian who saw Jean Nicolet, the first white man to visit Wisconsin, arrive at Green Bay in 1634. Dave Cota reiterated his mother's testimony and indicated that he regarded the Strawberry Channel as safer for sailing vessels and steamboats than the stormy straits west of Chambers Island. He said that his Indian grandfather preferred the Strawberry Channel to the other. Grandfather Kewaskum, of whom a geographer today thinks as travelling generally in a birchbark canoe, was a pilot in 1836 or thereabouts; but his testimony, whatever it might have been, was not preserved in anything but the memories of his descendants; and tradition is not evidence.

RIVER ISLANDS

The Boundary through Rapids and Islands of Menominee and Brule Rivers.—How are Michigan and Wisconsin to divide the islands in the Menominee River and its tributary the Brule, the old Bois Brulé? Congress told them in 1836 that "the centre" [or "the middle"] of the "main channel" of the Menominee River was to be their boundary. A river is always the worst kind of a boundary, and in this case the existence of islands and multiple channels seems not to have been apprehended by Congress.

On June 12, 1838, Congress directed that the Michigan-Wisconsin boundary should be surveyed, marked, and designated. On July 20, 1840, Capt. T. J. Cram, U. S. Army, was sent out to survey the boundary. He reported that the Menominee and the Brule contained numerous islands and therefore there was not everywhere an unmistakable "main" channel. He therefore proposed that Wisconsin should have all the islands in the Menominee River below Pe-me-ne Falls. (Fig. 4), and Michigan, all islands above that point and all those in the Brule. In 1841 Congress appropriated \$6000 for the survey of the Menominee and Montreal Rivers and the intervening territory. Captain Cram went in the field again but had so much to do farther west, as will be shown later, that he did not get around to the survey of the Menominee. He reiterated his solution of dividing the islands, as-

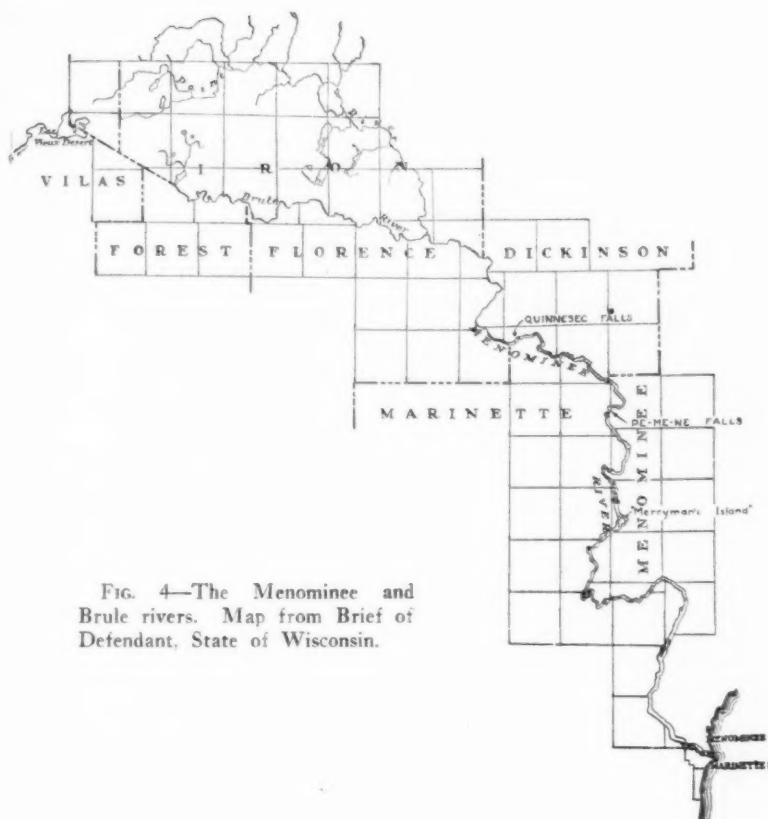


FIG. 4—The Menominee and Brule rivers. Map from Brief of Defendant, State of Wisconsin.

serting that the larger ones, a mile long by a quarter to an eighth of a mile wide, were covered with excellent pine.

In 1842 and again in 1843 Congress attempted to fix this boundary but failed. On August 6, 1846, Congress authorized the people of Wisconsin Territory to form a State government. The act provided boundaries. That in the Menominee River was to follow "the channel." The act provided further that the islands were to be divided according to Captain Cram's plan. Quinnesec Falls, however, (Fig. 4) rather than Pe-me-ne Falls was to be the point below which Wisconsin was to have all islands. This arrangement was not to be binding on Congress, however, unless it was ratified by Michigan on or before June 1, 1848.

The pertinent portion of the law of Aug. 6, 1846, reads as follows:

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the people of the Territory of Wisconsin be, and they are hereby, authorized to form a constitution and State government, for the purpose of being admitted into the Union on an equal footing with the original States in all respects whatsoever, by the name of the State of Wisconsin, with the following boundaries, to wit: "Beginning at the northeast corner of the State of Illinois—that is to say, at a point in the centre of Lake Michigan where the line of forty-two degrees and thirty minutes of north latitude crosses the same; thence running with the boundary line of the State of Michigan, through Lake Michigan, Green Bay, to the mouth of the Menomonic River; thence up the channel of said river to the Brulé River; thence up said last mentioned river to Lake Brulé; thence along the southern shore of Lake Brulé in a direct line to the centre of the channel between Middle and South Islands, in the Lake of the Desert; thence in a direct line to the head-waters of the Montreal River, as marked upon the survey made by Captain Cramm; thence down the main channel of the Montreal River to the middle of Lake Superior . . .

Sec. 2. And be it further enacted, That, to prevent all disputes in reference to the jurisdiction of islands in the said Brulé and Menomonic Rivers, the line be so run as to include within the jurisdiction of Michigan all the islands in the Brulé and Menomonic Rivers, (to the extent in which said rivers are adopted as a boundary,) down to, and inclusive of, the Quinnesec Falls of the Menomonic; and from thence the line shall be so run as to include within the jurisdiction of Wisconsin all the islands in the Menomonic River, from the falls aforesaid down to the junction of said river with Green Bay: Provided, That the adjustment of boundary, as fixed in this act, between Wisconsin and Michigan shall not be binding on Congress, unless the same shall be ratified by the State of Michigan on or before the first day of June, one thousand eight hundred and forty-eight."

On Mar. 3, 1847, Congress enacted a law regarding the admission of Wisconsin to the Union, assenting to a modification of its boundary with Minnesota but not changing its Michigan boundary in any respect.

Two days before the date specified in the Act of Aug. 6, 1846, that is on May 29, 1848, without waiting for Michigan to act, but without objection by Michigan, Congress admitted Wisconsin Territory into the Union as a State, "with the boundaries prescribed by the act of Congress, approved August sixth, eighteen hundred and forty-six." Legally, therefore, Cram's plan for the division of the islands seemed to have little standing in 1923 when Michigan brought the suit. Congress was clearly to blame for this ambiguous situation, but neither Michigan nor Wisconsin was wholly innocent. It was truly ambiguous for the 75 years from 1848 to 1923 when Michigan brought this suit.

It may be good naturedly said of the federal government that its General Land Office surveyed the islands within the Menominee River below Quinnesec Falls, or a majority of them, as if Captain Cram's scheme of division had been accepted by Michigan and had legally gone into force. In 1854 the U. S. Surveyor General of Wisconsin, at Dubuque, Iowa, directed a deputy surveyor to "survey all valuable islands in the Menominee River from its mouth as far as Quinnesec Falls which is as far as the State of Wisconsin or this office has jurisdiction." Then and subsequently some 46 islands or parts of islands below Quinnesec Falls were surveyed as parts of Wisconsin. The survey of one such parcel of land, Merryman's Island (Fig. 4), originally surveyed in the township and range system of Michigan, but resurveyed as part of Wisconsin in 1854, was cancelled in 1862 because the area surveyed was considered by the Surveyor General not to be an island but a peninsula attached to the Michigan shore of the Menominee River. Some of the islands have never been surveyed.

The General Land Office, further, appears to have been a bit derelict in its duty through the following. In the year 1862 the Commissioner of the General Land Office said that "in consequence of the failure of Michigan to assent to the adjustment of the boundary by the Act of Aug. 6th, 1846, this office is clearly of the opinion that the middle of the main channel of the [Menominee] River constitutes the boundary between the jurisdiction of Michigan and of Wisconsin." Land Office officials at Traverse City (Michigan) and Menasha (Wisconsin), as well as the Surveyor General at Dubuque (Iowa), and the U. S. District Attorney at Detroit (Michigan), were informed of this. It was the federal official last named who had brought up the case. Big Island, an area of 1,000 acres, situated in the Menominee River some distance below Quinnesec Falls, was surveyed in 1852 as part of the township and range system of Michigan and in 1855 as part of the township and range system of Wisconsin. About 1862 trespassers committed depredations there. The U. S. District Attorney in Detroit had to determine whether they should be tried in Michigan courts or in Wisconsin courts. Of course Michigan State authorities knew all about the matter. This one island survey which placed Big Island in Wisconsin was cancelled. The Commissioner erred, however, in leaving in force the 1852 survey which placed Big Island in Michigan, and in doing, or causing to be done, precisely nothing respecting other islands below Quinnesec Falls to which this conclusion of the Commissioner applies specifically.

As already pointed out, many other of these islands had been surveyed as parts of the township and range system of Wisconsin.

Rather curiously, neither Michigan nor Wisconsin appears to have taken any steps as a result of this conclusion. Nor did either State present to the Supreme Court of the United States, in 1923-26, this item of decidedly material evidence respecting federal actions in 1862. So the General Land Office of the United States was not *solely* inactive regarding the Menominee River problem during the 61 years from 1862 to 1923.

The U. S. Geological Survey, likewise an important federal bureau, surveyed in 1898 and published in 1901, and again in 1903 and 1911, the Menominee Special Quadrangle, a map on the scale 1:62,500. It shows islands in the Menominee River both above and below Quinnesec Falls. This federal publication attributes some islands to Michigan and some to Wisconsin, and divides some in two, lengthwise. The bureau which published it was wholly conscious of the quandary as to the Menominee River since it also published a scholarly bulletin on State boundaries which was printed in 1885, 1900, 1904, 1906, and 1923, and since this bulletin omits the Cram plan for dividing the Menominee River islands at Quinnesec Falls. The Iron River Quadrangle, scale 1:62,500, published in 1898, does not show the islands in the Brule River, all of which are small, in relation to the State boundary.

The State of Michigan may be smilingly charged (a) with 75 years of general acquiescence in the foregoing situation; (b) with specifically permitting Wisconsin to administer and tax all or nearly all of the inhabited, occupied, farmed, logged, or otherwise utilized islands below Quinnesec Falls except those in the environs of Menominee, Michigan, for at least 60 years preceding 1907; (c) with adopting a State constitution in 1850 which may be at least averred to ratify and confirm Wisconsin's 1848 boundary; from 1850 to 1907, when a new constitution was adopted, Michigan seems to have acquiesced in this boundary; (d) in 1842 Senator Porter of Michigan had tried to get Congress to accept the Cram plan for dividing the Menominee islands; the bill passed the U. S. Senate in 1843, but died in the House of Representatives; (e) in 1845 Representative McClelland of Michigan, and his colleagues, in consultation with the delegate of Wisconsin, drafted the very clause of the Wisconsin boundary description of 1846-48 which so divides the islands; (f) during the 75 years between 1848 and 1923 no Michigan member of Congress attempted to clarify

the situation regarding the islands in the Menominee and Brule Rivers.

The State of Wisconsin may be charged in friendly derision (a) with several of the same sins of omission which are attributed to the State of Michigan; (b) with failing, in case she thought from 1848 to 1923 that the Cram plan for division of the Menominee-Brule islands was in legal force, to bring about the surveying of such islands below Quinnesec Falls as are not yet surveyed; (c) with notoriously failing to administer and tax the portion of the city of Menominee which lies on the so-called "Sugar Island" and "Grassy Island," two water-rimmed bodies of land in the Menominee River below Quinnesec Falls, opposite and contiguous to the city of Marinette, Wisconsin; (d) with accepting a portion of a boundary which was conditional upon ratification by Michigan a day or two before the time for ratification by Michigan had expired, and then with sleeping upon unquieted title for 75 years; (e) with being no pure lily herself, since the federal authorities turned over to her governor in 1866 all plats and field notes from the Surveyor General's office in Dubuque; at least she was no purer than Michigan which received similar plats and field notes a few years earlier, under the Act of Jan. 22, 1853; (f) Wisconsin may even be charged, or credited, with having a lone territorial delegate in Congress in 1845 who was so astute, or so lucky, as to actually accept the Cram plan for the division of the islands, with the minor and advantageous shift of the dividing point from Pe-me-ne Falls upstream to Quinnesec Falls; this man actually allowed the Michigan Congressmen to draft into the Wisconsin Enabling Act a boundary provision which gave Wisconsin all the best islands, as to forest, and the most promising future power sites at rapids, and left to Michigan fewer and poorer islands as well as the weaker and more remote power sites; the villain was George Washington Jones, a former U. S. Surveyor General at Dubuque.

Both States appear to the writer, as a neutral geographer, to have been less than assiduous, and perhaps a trifle less than candid, in failing to find and present to the Supreme Court of the United States in 1923-6 the situation with respect to interstate bridges which were built on the lower Menominee River in 1863-67 and 1894-95 and their relation to an island in the Menominee River. Perhaps it was because each State had carelessly hurt its case in 1895 by unthoughtful admissions in the interest of economy, for the cities of Marinette, Wisconsin, and Menominee, Michigan,

then took interesting positions regarding the State boundary. The two city councils and city attorneys appear to have been firm, at that time, in exactly and precisely the opposite position from those taken by the two States in 1923-26. Their views were not unknown in 1894-95 to the Treasurer of Marinette County, Wisconsin, and to a member of the U. S. House of Representatives from Michigan.

In 1863-67 an older bridge on or near the same site, and crossing the same island, was paid for through the sale of swamp lands. Wisconsin's legislature provided ten sections of land, Michigan's six sections. Each was sold at the same minimum price per acre. State, county, and town officials in Michigan and in Wisconsin jointly prepared and approved the plans for the bridge and picked the site. The laws of 1863, 1864, and 1867 demonstrate all this. Accordingly, it almost seems as if the Supreme Court might have been told that State officials and county officers of Michigan, to say nothing of her legislature, long ago accepted and reiterated a bit of material evidence regarding the islands in the Menominee River. Even a geographer may look at a law, and one geographer would say that, some 70 years before 1923, Michigan agreed to a 3 to 5 division of the expense of bridging this interstate stream at one of the points below Quinnesec Falls where there is an island which Wisconsin assumed to belong to herself. Nevertheless in 1923 Michigan, with big round eyes, told the Supreme Court in her Bill of Complaint that it was not until 1919-21 that "the officials of the State of Michigan were first informed of the fact of the disputed territory included within the islands in the Menominee River . . ." Perhaps there ought to be a rule against keeping newspapers in libraries, letters in archives, and laws in books where an inquisitive geographer can find them.

Such was the situation in 1926 regarding the 130-odd islands in the Menominee and Brule Rivers. Everyone was guilty of sins of omission or of commission—Congress, Michigan, and Wisconsin. No one was guilty—neither Congress, Michigan, nor Wisconsin. There was no equitable solution. One of the few promising factors in the situation was that Michigan appeared to have accepted the division of the islands when she adopted her constitution of 1850. The problem of the Supreme Court, as a geographer views the matter, was to award the islands in such a way as to saddle the least expense upon owners or inhabitants of the islands, to cause least confusion in deeds and other property records, and to carry out, so far as possible, the intent of the Con-

gresses of 1836, 1846, and 1848. The boundary in the Menominee and Brule Rivers needed to be fixed. This was the most important portion of the Michigan-Wisconsin boundary suit of 1923-26 because until then it was not settled.

LAC VIEUX DESERT, THE STRAIGHT-LINE BOUNDARIES, AND THE HEADWATERS OF THE MONTREAL RIVER

Which of two straight-line boundaries in northern Wisconsin properly connects the headwaters of the Brule River with the headwaters of the Montreal River of Lake Superior?

This portion of the boundary suit of 1923-26 is a combined study (a) of place-names, (b) of definitions of headwaters, (c) of stream flow and mine pumpage, (d) of history, (e) of the interpretation or construction of laws and the conditions under which they were passed, and (f) of maps.

Congress originally thought from the hydrographic misapprehensions of some old map that there was a lake called *The Lake of the Desert* which was near the source of the Menominee River and which drained northwestward through the Montreal River into Lake Superior.

Congress said to the two aspirants for admission to the Union some 87 years before 1923:

to Wisconsin

April 20, 1836

Your boundary with Michigan is to extend "... to that head of said river [i.e., the Menominee] nearest to the Lake of the Desert; thence in a direct line to the middle of said lake; thence through the middle of the main channel of the Montreal River, to its mouth . . ."

to Michigan

June 15, 1836

Your boundary with Wisconsin is to extend to the mouth of the Montreal River; "thence through the middle of the main channel of said river Montreal, to the middle of the Lake of the Desert; thence in a direct line to the nearest headwater of the Menominee River . . ."

Michigan said to the Supreme Court in 1923 that the "Lake of the Desert" was *Island Lake*, the source of a western branch of the Montreal River. Wisconsin replied that "the Lake of the Desert" was *Lac Vieux Desert*, the source of the Wisconsin River, situated about 65 miles farther east, and that the headwaters of the Montreal River lay at the junction of two specified tributaries which unite to form the eastern branch of the Montreal River. The land in dispute was (a) an area $2\frac{1}{2}$ to 5 miles by 18 miles, (b) an adjacent area about 5 to 7 miles by 72 miles (Fig. 5).

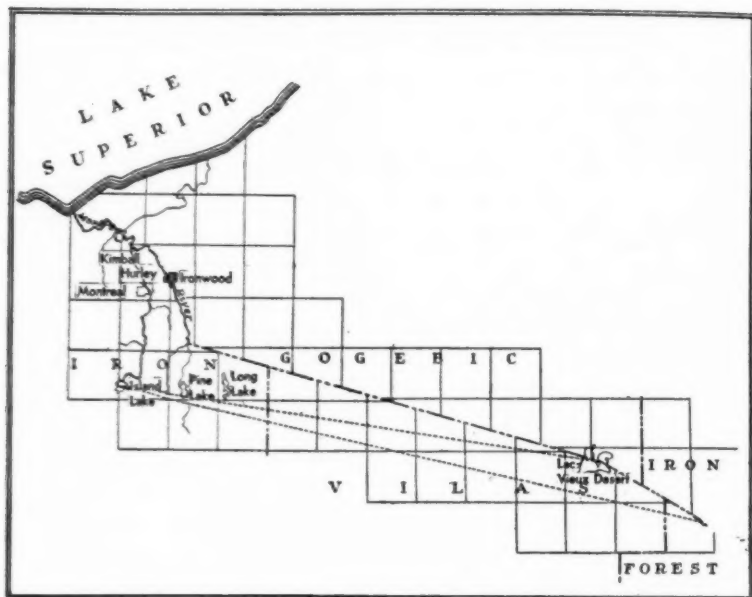


FIG. 5—The disputed areas west of Lac Vieux Desert and the Montreal River. Map from Brief of Defendant, State of Wisconsin.

The prizes contended for were cut-over woodland, lake resorts popular for fishing and hunting, and a group of rich iron mines.

History records that Captain Cram of the U. S. Army tried to mark the boundary in 1840, following a Congressional appropriation act of 1838. Not knowing what map Congress used in 1836, any more than anyone does today, he appears to have set out with Judson's 1838 map of Wisconsin and Iowa which shows two connected bodies of water named *Lac Vieux Desert*, draining respectively into the Montreal and the Menominee. He came back and reported that Lake Vieux Desert is the principal head of the Wisconsin. Accordingly one could not follow the Montreal headward and reach this lake without traveling overland some eight days' pack journey for an Indian. He said Lac Vieux Desert was "the Lake of the Desert" and wanted to know what point in Lake Vieux Desert was to be the turning point in the two straight-line boundaries which must connect the headwaters of the Montreal and of the Brule tributary of the Menominee. The Michigan legislature then provided that a Michigan Boundary Commissioner

was to act jointly with an United States Boundary Commissioner in unscrambling this situation.

Congress appropriated \$6000 in 1841 for a "survey and examination of the country between the mouths of the Menominee and Montreal Rivers." Captain Cram went out to make this survey in 1841. The year before he had gone up the Menominee and Brule, and overland to Lac Vieux Desert. This time he went on from that point. First he mistook the Ontonagon River for the Montreal and followed it to its mouth. He then found the Montreal, identified the eastern branch as the "main channel," and determined upon the junction of the Balsam and Pine Rivers as its "head proper." Here he made his astronomical station No. 2, determining the latitude and longitude of this point with great care. Douglas Houghton accompanied Captain Cram on part of this season's journey, determining the geographical position of the junction of the Pine and Balsam independently and with equal precision. He appears to have been combining field work as State Geologist of Michigan with survey work as Michigan Boundary Commissioner.

Captain Cram produced a new map showing the relations of the headwaters of the Montreal, Ontonagon, Wisconsin, and Menominee Rivers with fair accuracy. He did not survey the western branch of the Montreal River nor show Island Lake.

In 1846 Congress passed the Wisconsin Enabling Act, giving the new State a northern boundary which contains two direct lines; one was to run from Lake Brule at the head of the Brule River to the "centre of the channel between Middle and South Islands, in the Lake of the Desert." The other was to run thence to "the headwaters of the Montreal River, as marked upon the survey made by Captain Cram; thence down the main channel of the Montreal River . . ." Four days later, on Aug. 10, 1846, Congress provided for the marking of the portion of the Wisconsin-Michigan boundary between the sources of the Brule and the Montreal, referring in terms to the boundary description of Aug. 6, 1846.

The two straight-line boundaries were surveyed and marked in 1847 by W. A. Burt of the Surveyor General's office. This boundary survey was planned for by Lucius Lyon of Michigan, and certified by him on Dec. 28, 1847. Lyon had been territorial delegate of Michigan from 1833 to 1835, U. S. Senator from Michigan from 1837 to 1839, and a Michigan member of the federal House of Representatives from 1843 to 1845.

Wisconsin was admitted as a State in 1848, as already explained, with the boundaries described in 1846.

Michigan adopted a new constitution in 1850, including a boundary description essentially identical with Wisconsin's 1846 boundary except that the words "as marked upon the survey made by Captain Cramm" were not included in the language respecting the headwaters of the Montreal River.

Michigan's Constitutional Convention of 1867 readopted the boundary description of 1850, adding the words "as marked upon the survey made by Captain Cram by authority of the United States." This constitution failed of adoption; but, one hears, it failed only because of its provisions for suffrage and for State salaries. Much the same thing happened in 1873.

Island Lake first appears in the picture in 1907-08. Michigan's new constitution of that year provided for a boundary differing in only one respect from that adopted for Wisconsin by Congress in 1846 and marked the next year by Burt and Lyon.

From Wisconsin Enabling Act of 1846

"to the centre of the channel between Middle and South Islands, in the Lake of the Desert; thence in a direct line to the headwaters of the Montreal River, as marked upon the survey made by Captain Cramm; thence down the main channel of the Montreal River to the middle of Lake Superior."

From Michigan Constitution of 1907-08

"through Lake Superior to the mouth of the Montreal River; thence through the middle of the main channel of the west branch of the Montreal River to Island Lake, the headwaters thereof; thence in a direct line to the center of the channel between Middle and South islands in the Lake of the Desert . . ."

This new Michigan boundary proposal appears to have been submitted neither to Wisconsin nor to Congress.

During the taking of testimony, the making of briefs, and the arguing of the case vast numbers of words were recorded and hundreds of maps were examined and commented upon.

As before, this was not a case in which living witnesses contributed materially or conclusively to the solution. Wisconsin, for example, introduced a Chippewa giant, seven feet tall, aged 70 years. He rejoiced in the Indian name *Kitchi oja ni mwe we jig*, or Great Angelic Sounding Sky, but said his English name was Big George Skye. He felt certain in March, 1925, that he could identify an Indian trail which he had traversed frequently when he was 17 years old, say in 1872. This trail crossed the western branch of the Montreal River. He called this stream by the name *Go go gas ugun*, and not *Montreal River*. He said it flowed into the Montreal (or Pine) River. This Chippewa testified in his

native tongue. In that American language he was sworn to tell the Chippewa truth, the whole Chippewa truth, and nothing but the Chippewa truth, regarding the matters in issue between Michigan and Wisconsin. Question and answer came through a full-blood, educated, English-speaking Chippewa or Ojibway Indian who had often acted as interpreter in federal and State courts. Big George convulsed the Special Commissioner of the Supreme Court, the attorneys, the interpreter, and the other witnesses, however, by one reply in particular:

Q. "And what was the name of that river?"

A. "*Ini nau du ga se bi.*"

Q. "And what was the American name of that river? You will have to give us that."

A. [Big George, smiling] "The American name or English?" This Ojibway or Chippewa American—Chippewa means "to roast till puckered up"—subsequently said the English, or white man's name of this stream, whose real American six-syllable name he had previously given, was "Spruce River." He was followed on the witness stand by another 70-year-old Chippewa, *Ne gani gi zig*, or Head Sky, or Eastern Sky, or Jim Bell, a chief from the Lac du Flambeau tribe and father of the interpreter. The memories of none of these red witnesses took them back to 1836, 1844, 1846, or any significant year.

Other living witnesses testified regarding maps of various significant dates, and what they showed in terms of modern hydrology and geographical nomenclature; they gave weighty testimony as to the relative sizes of the two forks of the Montreal River, as to methods of determining latitude and longitude in 1836, as to modern technical usage respecting the term "headwaters"; Cram's "headwaters" of the Montreal, for example, being strictly analogous to the Ohio headwaters at the junction of the Monongahela and the Allegheny Rivers and to the headwaters of the Illinois River at the junction of the Kankakee and the Des Plaines. The testimony of one loquacious geographer covers 43 pages of the Commissioner's printed transcript of record, or upwards of 20,000 words, but part of that was pitiless cross-examination. The poor dear Justices of our Supreme Court may have to read these endless words of witnesses, but in a case like this the most convincing evidence comes from the exhibits. Douglas Houghton, of course, was a singularly effective witness, though not living since 1845, through the exhibit which contained his diary and sketch map.

As Michigan Boundary Commissioner he had accepted in 1841 the junction of Pine and Balsam Rivers as the headwaters of the main Montreal. There were many such witnesses who were present only through well-identified exhibits.

Living witnesses, white geologists and engineers, testified respecting the relative sizes of the eastern branch of the Montreal and of the *Go go gas ugun* or western branch. By personal observation, by stream-flow records, and by maps and photographs they demonstrated what they thought. It was agreed that the watershed of the eastern branch included 109 to 112 square miles, that of the western branch about 97 square miles. The Michigan engineers and the Wisconsin engineers disagreed violently about relative stream-flow figures and about what their own statistics and those of federal engineers really meant.

The weak point in all their testimony, as well as their exhibits, was that they spoke of conditions in 1920, 1924, or 1926. Pumping mine water into a stream in 1924 may make it larger than it was in 1836-46. Cutting off forests may make present-day streams less full of water at one time of year and more full at another in the present century than in the last. No one could testify in terms of second-feet for the streams of 80 or 90 years ago. Nevertheless when the water battle was over, it looked to a geographer as if Wisconsin had established the fact that the *Go go gas ugun* is and probably always was smaller than the eastern branch, that the latter floated canoes more easily before white men logged the country and obstructed the streams, and, therefore, that the latter was the "main channel" of the Montreal in 1836-46. Michigan had had a professor of engineering at its State University study the Montreal soon after 1907. His 1909 report was not produced too willingly by Michigan's attorneys in this case, since it included the conclusion that "the East Branch, now so called, is the larger and the 'main channel' of the Montreal."

Island Lake hardly shows its head in testimony or exhibits. Lac Vieux Desert was discussed out of all logical proportion because Michigan made much of her theory about a certain edition of a "map of the Territory of Wisconsin" by David H. Burr. The map is dated 1836. Its author is designated as "Draughtsman to the House of Reps. U. S." It is marked with the words, in print, "to accompany the Hon. Z. Casey's report." A copy of this map from the Library of Congress was reproduced in 1923 in Michigan's Bill of Complaint as Exhibit A. The same map, as Plaintiff's Exhibit 7, and another copy, as Exhibit 6, appear in the

Brief for the State of Michigan. This other copy of what we may call the Burr-Casey map of 1836 was found some time since 1914 in the possession of a gentleman in Michigan who secured it rather directly from a sister of Lucius Lyon. Lucius Lyon died in 1851; and three-quarters of a century later the Attorneys General of Michigan and of Wisconsin, and the Special Counsel of the two States, solemnly agreed, stipulated and admitted that he was deceased. One might suspect, therefore, that he is no longer alive. They stipulated further that "Lucius Lyon was a delegate in Congress from Michigan at the time of Michigan's admission into the Union, and for several years prior thereto, and became United States Senator from Michigan immediately upon the admission of Michigan as a State . . ."

Michigan presented many contentions respecting the Burr-Casey map of 1836, including those summarized below.

1) Lucius Lyon was thought by Michigan to have been present at committee meetings in Congress when the boundary was agreed upon in 1836.

2) The significant committees were the Judiciary and the Territorial Committees of the House of Representatives, and the two Select Committees of the Senate on the admission of Michigan and of Arkansas.

3) Zadok Casey of the House Committee on Territories (see (a) below) was thought to have attended some of these committee meetings.

4) A blue pencil line on Plaintiff's Exhibit 6 indicates the Michigan-Wisconsin boundary.

5) Lucius Lyon may have drawn this line.

6) The line follows the Montreal and Menominee Rivers from Lake Superior to the Green Bay of Lake Michigan.

7) Near their headwaters this Burr-Casey map shows a lake without outlet surrounded by a cluster of four lakes draining respectively into the Ontonagon, Menominee, Wisconsin, and Chippewa Rivers. The five lakes are collectively denominated "Les Lac Vieux Desert." Northwest of them is an unnamed lake, draining into the Montreal River.

8) Michigan thought when she started the boundary suit of 1923-26 that this map was prepared in 1836 by Burr "for use in connection with the report upon the . . . bills providing for the admission of Michigan into the Union and the creation of the . . . territory of Wisconsin."

9) All of this and much more along similar lines was intended to lead to the conclusion that there were several "Lakes of the Desert" and that Island Lake at the head of western branch of the Montreal River might be the particular "Lake of the Desert" referred to in the boundary description of the bills which finally became law on April 20 and June 15, 1836.

Wisconsin had other ideas, some of them developed through studies by and testimony of a member of the Association of American Geographers. Wisconsin's views included the following:

(a) Zadok Casey was a member of the House Committee on Public Lands in 1836, not the Committee on Territories.

(b) The Burr-Casey map, Plaintiff's Exhibits 6 and 7, was attached to a report on the desirability of establishing another Land Office west of Lake Michigan and to no other report.

(c) Nothing suggests that it was ever laid before any other committee of Congress.

(d) Its date is March 11, 1836.

(e) Congress essentially settled the Michigan-Wisconsin boundary description on March 1, 1836, in the Senate Judiciary Committee ten days before this map is proved to have been available; Representative Casey is not known to have attended sessions of any Senate or House committees which discussed this boundary.

(f) The original boundary description is in Senate bill No. 92 of Jan. 21, 1836.

(g) This bill speaks of "Lac Vieux Desert," not "Les Lac Vieux Desert," an accurate French singular rather than an impossible and illiterate singular-plural combination.

(h) An amendment dated March 25, 1836, contains the first boundary description which speaks of the "Lake of the Desert," erroneously translating the distinctive French-Canadian word for natural meadow, old clearing, old planting-ground, open piece of arable land, abandoned garden, former farm, old wintering ground, or some such thing, as if it meant *desert* in the modern geographical sense; this word had been mistranslated before, of course.

(i) The geographical terminology of neither boundary description agree with that of the Burr-Casey map of March 11.

(j) None of the many other Burr maps of this region suggests that it was used in 1836 by the Senate Judiciary Committee; the only map they submitted to Congress was a part of Mitchell's of

1755, which was drawn on a sheet with one by Burr to show the true relations in latitude between Toledo and the southern tip of Lake Michigan.

(k) Burr's "Map of the Northern Parts of Ohio, Indiana, and Illinois . . ." [Michigan Exhibit 9] shows a cluster of lakes similar to those on the Burr-Casey map, with the important exception that one lake drains into the Montreal. The name "Lac du Vieux Desert" appears east of the cluster of lakes. A printed copy of this Burr map was attached to the report of the Judiciary Committee of the House of Representatives dated March 2, 1836. This latter map differs from Michigan Exhibit 9 in showing no name on the cluster of water bodies at Lac Vieux Desert.

(l) Letters of Lucius Lyon on various significant dates show (i) that he knew on Feb. 4, 1836, that Michigan would be given what is now the Upper Peninsula in compensation for the loss of Toledo; his evaluation of the present site of Michigan's great wealth in iron and copper mines is in his letter of Feb. 18 where he calls it "a strip of territory along the south shore of Lake Superior where we can raise our own Indians in all times to come and supply ourselves now and then with a little bear meat for delicacy"; (ii) on Feb. 21 he wrote one friend that the boundary would go through the Menominee and Montreal Rivers and "Old Desart Lake," and another that it would go through "Lac Vieu Dessert"; he never referred to "Lakes of the Desert" but only used the singular; (iii) on March 2 he indicated that the boundary was settled and that Michigan had lost Toledo; (iv) no subsequent letters by Lyon suggest that details of the boundary were discussed after March 1 in Congress; (v) no letter alludes in any way to the Burr-Casey map.

(m) Many other maps show that knowledge of lakes and streams in the Menominee-Montreal watershed grew slowly; a portion of Dr. John Mitchell's Map of the British and French Dominions in North America, published in 1755, was Michigan's Exhibit 1. It showed the "Lake of the Desart," draining into the Mississippi.

(n) No old map introduced by either plaintiff or defendant furnishes any tint or color of proof that Island Lake might be considered to be Lac Vieux Desert.

(o) The "Lake of the Desert" in the boundary description of 1836 is the present-day *Lac Vieux Desert* at the head of the Wisconsin River between the Montreal and Brule-Menominee head-

waters; it is the *Kete Kitikan*, *Ka-ta-kit-te-kon*, or *Gete-Kitigan* of the Indians.

The name "Lac des vieux deserts" seems to appear first in 1708 on Franquelin's "Carte Generale de la Nouvelle France. . . ." Upon this map the lake is placed in essentially its correct geographical position as now known, i.e., it is northwest of the mouth of the Menominee River and south of the western portion of Keweenaw Point. Franquelin places the lake farther north than Mitchell did in 1755; but, like Mitchell, he makes it drain into the Mississippi River by the Chippewa River rather than the Wisconsin River. No one has so far discovered what French soldier, missionary, or voyageur learned of the existence of the "Lac des vieux deserts" shortly before 1708. The original name, however, is Chippewa rather than French. Reliable dictionaries of the Chippewa language show that "Kete" or "Geté" means "vieux," and that "Kitikan" or "Kitigan" means "désert" or "defrichement." So "Kete Kitikan" became the *Lac Vieux Desert* of Captain Cram in 1840-41, and the *Lac Vieux Desert* of the Burt survey. Burt, as will be recalled, marked the straight-line portions of the Michigan-Wisconsin boundary. This survey Lucius Lyon himself planned in 1846, as Surveyor General, and approved at Detroit on Dec. 28, 1847, over his signature.

Having grumbled a trifle at the Congresses of 1836, 1846, and 1848 in connection with the ambiguous language of the boundary description relative to the lake islands as well as with the four-score years of inactivity regarding the incomplete allocation of the river islands, a geographer must also give ungrudging credit where credit is due. As fast as geographical and hydrographic knowledge developed regarding Lac Vieux Desert, the Montreal River, and the straight-line boundary along the Menominee-Montreal water parting, Congress took account of each new situation, provided funds, and acted promptly and conclusively.

Wisconsin also introduced a terrific body of simple undisputed evidence of administration by that State in the upland region claimed by Michigan to the west of Cram's headwaters of the Montreal and to the south and west of Lake Brule and Lac Vieux Desert. A selection of such evidence will suffice to indicate its nature. By 1850 Wisconsin county governments were established in the area now disputed. Towns were created. Town and county boundaries were fixed or shifted. As settlers slowly sifted into northern Wisconsin, taxes were assessed and collected, beginning in 1874; by 1886 the whole of the disputed area was subject

to taxation by Wisconsin. Real estate transfers were recorded. Federal land surveys laid out public lands on the assumption that the boundary marked by Burt was in exact force. County highways and State highways were built, as were school houses, court houses, city halls, and other public edifices. Elections were held, but the citizens did not vote in Michigan. Laws were enforced and they were the laws of Wisconsin. Witnesses and exhibits proved all this.

Michigan made no single effort to take possession, assert dominion, or exercise jurisdiction. Taxation, elections, government, and everything else were left to Wisconsin in the strip of land between the branches of the Montreal River and the large contiguous area south and west of Lac Vieux Desert. Michigan even attributed these areas to Wisconsin in an official map, in her Blue Book for 1925, while the suit was in progress.

The claim of Michigan to the lands west of the Montreal was taken with levity by some of the inhabitants of adjacent areas in Michigan. This does not appear in the evidence nor in the briefs and arguments; but an inquisitive geographer can read the newspapers. Ironwood, Mich., and Hurley, Wis., are twin cities, separated by the Montreal River which is usually a tiny stream, what a New Englander calls a meadow brook. Hurley was in the disputed area of the suit of 1923-26. The *Ironwood Times* for Feb. 1, 1924, printed a story about the boundary dispute under the bold headlines which follow: "WE'RE THREATENED WITH HURLEY AGAIN. LEGAL ACTION OVER BOUNDARY PROGRESSING. WISCONSIN WANTS TO KEEP HURLEY AND SHE'S WELCOME TO THE BURG."

THE BOUNDARY AWARD

The Argument, Jan 5, 1926.—Following helpful argument by counsel for each State at the bar of the Supreme Court as well as a study of the issues, evidence, and briefs by the nine Justices, Mr. Justice Sutherland delivered the Opinion of the Court.

The Opinion, Mar 1, 1926.—As to the Green Bay section, involving the "most usual ship channel" into Green Bay and the boundary among the islands within Green Bay, the Opinion said in part:

"The evidence as to which of the two ship channels was the usual one at the time of the adoption of the Michigan Enabling Act [i.e., in 1836] is not only conflicting, but of such conclusive character that, standing alone, we could base no

decree upon it with any feeling of certainty. . . . But . . . the title of Wisconsin to the disputed area now in question, is established by long possession and acquiescence; and this conclusion is justified by evidence and concessions of the most substantial character. . . .

" . . . that the State of Michigan . . . has not been aware of the real facts . . . cannot be accepted . . . "

Turning to the Menominee River section, the Opinion indicates that the Supreme Court thought well of

"the contention of Wisconsin . . . that Michigan, by the Constitution of 1850, having expressly adopted that part of the line from the Lake of the Desert to Lake Brulé, cannot be heard to say that she did not also adopt the adjustment of the line in respect of a division of the islands."

The Opinion says:

"There is force in this contention. . . . To permit her [i.e. Michigan] to reap the benefit of the adjustment so far as it is to her advantage and reject it to the extent that it is advantageous to her sister State would be plainly inequitable. We prefer, however, to rest our determination upon the conclusion, fully justified by the record, that . . . Wisconsin . . . had the undisputed and undisturbed possession of substantially all of the islands below the Quinnesec Falls . . .

"We, therefore, hold . . . that from Lake Brulé to the mouth of the Menominee the line . . . follows the channels of the Brulé and the Menominee wherever they are free from islands; that wherever islands are encountered above the Quinnesec Falls the line follows the channel nearest the Wisconsin mainland, so as to throw all such islands into Michigan; and that wherever islands are encountered below the Quinnesec Falls the line follows the channel nearest the Michigan mainland, so as to throw all such islands into Wisconsin."

With respect to the Montreal River section i.e., involving Lac Vieux Desert, the straight-line boundaries and the headwaters of the Montreal, the Opinion is brief and positive.

"The lake, which, in our opinion is sufficiently identified as the one which Congress meant by its call for the Lake of the Desert, is several miles nearer to the point of junction of these tributaries [i.e., the Pine and Balsam tributaries of the easterly branch of the Montreal] than it is to any point on the westerly branch. . . . We think it fairly appears . . . that

the easterly and not the westerly branch was . . . the upper portion of the Montreal. . . .

" . . . Captain Cram . . . carrying out as nearly as possible what he conceived to be the intention of Congress . . . fixed the head-waters of the Montreal at the junction of the Balsam and Pine, at a point designated and marked 'Astronomical Station No. 2' . . .

" . . . [Michigan] stood by without objection with full knowledge of the possession, acts of dominion, and claim and exercise of jurisdiction on the part of the State of Wisconsin over the area in question.

" . . . it is contended that the State of Michigan through all these years labored under a mistake in respect of the real facts, and that this was the result of excusable ignorance on her part. The contention is devoid of merit.

" . . . Michigan at this late date insists that the boundary now be established by a decree of this court in accordance with the description contained in her Constitution of 1908. Plainly, this cannot be done . . . The rule, long-settled and never doubted by this court, is that long acquiescence by one State in the possession of territory by another and in the exercise of sovereignty and dominion over it is conclusive of the latter's title and right of authority. . . . That rule is applicable here and is decisive of the question in respect of the Montreal River section of the boundary in favor of Wisconsin."

Regarding the whole controversy and all three geographical divisions of the State boundary, the Supreme Court quoted the clear words of a previous decision regarding long acquiescence in possession of territory. The court then indicated (1) that Michigan had "failed to maintain her case in any particular," (2) that "the claims of Wisconsin as to the location of the boundary in each of the three sections are sustained," (3) that "the boundary seems to be sufficiently defined for all purposes of future possession and jurisdiction," but that the parties to the suit or either of them might submit within 30 days the form of a decree carrying this Opinion more particularly into effect, and (4) that otherwise Michigan's Bill of Complaint would be dismissed.

The Decree, Nov. 22, 1926.—After correspondence or consultation with the Special Counsel for the two States, the Supreme Court ordered, adjudged, and decreed that the boundary between the States of Michigan and Wisconsin be fixed and finally established in accordance with a two-page description.

The high points resulting from a study of this decree by a geographer include the following:

(a) Island Lake and the western or *Go go gas ugun* branch of the Montreal River do not fall within the State boundary;

(b) "the headwaters" of the Montreal River lie at the junction of Pine and Balsam [i.e. Lehman's] Creek as fixed by Cramm;

(c) the straight-line boundaries follow the Burt survey of 1847;

(d) the words "Lake of the Desert" are used in the decree for a turning point in the boundary; these words are, of course, quoted from acts of Congress in 1836, &c; Cram and Burt each used the words "Lac Vieux Desert" on their maps; all careful modern Wisconsin or Michigan State maps call this body of water "Lac Vieux Desert"; the best geographical usage recognizes that the French-Canadian word *desert* does not mean "desert" in the English sense, but *clearing*, and that it is better not to translate it in this particular place-name; the U. S. Post Office Department used the phonetic name "Vudesare" in 1912 for an adjacent post office in Wisconsin, indicating local usage; the General Land Office used "Vudesare" for this post office on a map of Wisconsin in 1912; the U. S. Geological Survey calls the lake "Lac Vieux Desert" on its most recent maps; the General Land Office of the United States has consistently used the name "Lake Vieux Desert" for the lake; the U. S. Post Office Department used the name "Lac Vieux Desert" on its map of Wisconsin in 1924; a bill respecting Indian reservations in Michigan which was passed by Congress in 1925 employed the name "Vieux Desert"; the U. S. Geographic Board which fixes the spellings of all place-names for federal use, at least executive and legislative use, is likely to formally adopt the name "Lac [or Lake] Vieux Desert" when Wisconsin, or Michigan, or federal authorities, or commercial map makers request consideration and a decision;

(e) Cram's plan for the division of the islands in the Brule and Menominee Rivers as modified by Congress is formally approved in its entirety [with one explanation and one perplexing exception, see *infra*];

(f) The "most usual channel" within Green Bay and the "most usual ship channel" through the Rock Island Passage into Lake Michigan are described in detail by courses and distances; the courses and distances adopted are those of the modern steamships and powered launches of 1926 rather than the courses of the sailing vessels of 1836 which had to tack; thereby Michigan wins

broader fishing grounds than she may have previously administered; a geographer may venture to express his surprise that counsel for the two States did not agree upon and submit to the Supreme Court, in the form for a decree, a description of the northern and western ship channel which Captain Cram thoughtfully drew upon a map of Green Bay (Map 4, Sen. Doc. 151, 26 Congr., 2nd Sess.) in 1840, only four years after the boundary was originally fixed by Congress.

It seems too bad that the two States did not see fit to lay before the court the problem of the precise position of the Michigan-Wisconsin boundary through the middle of Lake Michigan east of the Rock Island Passage. This important question raised its head three times in federal courts between 1891 and 1896; (see *The Robert Holland and Parana* [Fed. Rep., Vol. 59, 1894, pp. 200-201]; *Nickerson v. Bigelow* [*ibid.*, Vol. 62, 1894, pp. 900-901]; same in Circuit Court of Appeals [*ibid.*, Vol. 70, 1896, pp. 113-128]); rum runners and federal enforcement officials may bring it up again at any time.

A geographer is surprised to find that no map or chart appears to have been marked and preserved in judicial or State records as a graphic construction of the technical geographical terms of this boundary decree of Nov. 22, 1926.

The Sugar Island Problem.—In all friendliness and good nature a geographer may permit himself to consider an entertaining problem which is raised by this boundary award. The territory referred to lies at the mouth of the Menominee River (Fig. 6). In two portions of the award the Supreme Court and the attorneys who drew up the form of decree make the following statements:

in Opinion, Mar. 1, 1926

"We therefore, hold . . . that wherever islands are encountered [in the Menominee River] below the Quinnesec Falls the line follows the channel nearest the Michigan mainland, so as to throw all such islands into Wisconsin."

in Decree, Nov. 22, 1926

"It is ordered, adjudged and decreed [that] where islands occur in the Menominee River below the Quinnesec Falls, the line shall pass through the channel nearest the Michigan bank, so as to throw all such islands into Wisconsin."

Except for replacing "wherever" by "where," "are encountered" by "occur," "follows" by "shall pass through," "mainland" by "bank," the two boundary descriptions are identical. It is the decree, as will be observed, which uses *bank* instead of *mainland*.

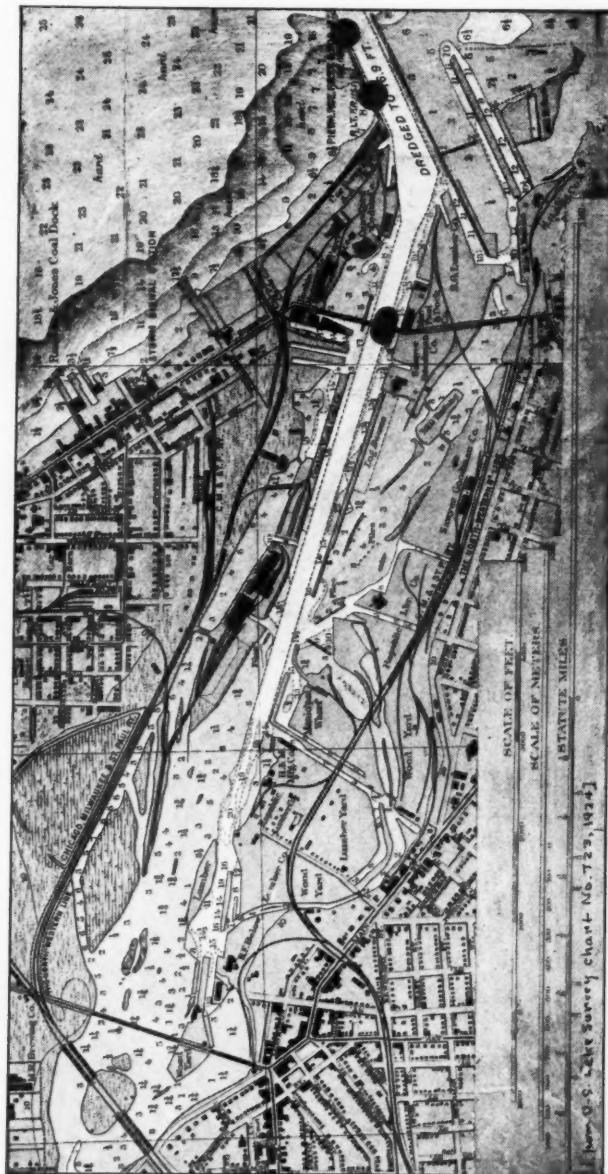


FIG. 6—"Sugar Island" and "Grassy Island," near the mouth of the Menominee River. Part of Chart No. 723, United States Lake Survey, 1924.

To the decree, however, is added a further provision, i.e., "the land known as 'Sugar Island' . . . is determined to be part of the mainland of Michigan."

Sheet 36 of Wisconsin Exhibit 198, the General Land Office plat of T. 31 N., R. 27 W., Michigan meridian, represents a government survey in 1847-48 (Fig. 7). Upon this plat the land elsewhere denominated "Grassy Island," a body of land northwest of "Sugar Island," appears to have been surveyed in Michigan [lots 1 and 2 of section 3]. The water body separating it from the mainland of Michigan is denominated "bayou"; two small islands without names appear upon or near the site of the modern "Sugar Island"; Sheet 40 of Wisconsin Exhibit 197, the General Land Office plat of T. 30 N., R. 24 E., Wisconsin meridian, surveyed in 1839-40, does not appear to show "Sugar Island" at all; the islands upon these two plats do not agree in shapes, positions, or numbers.

Township N° 31 N. Range N° 27 W. Mer. Mich.



FIG. 7—"Sugar Island" and "Grassy Island," near the mouth of the Menominee River. Part of plat by the General Land Office of T. 31 N., R. 27 W., Michigan Meridian, approved December 20, 1848.

A federal army map in colors, No. 723, U. S. Lake Survey, pictures "Sugar Island" today (Fig. 6). It is the "Chart of Menominee Harbor, Green Bay, including the cities of Marinette, Wis., and Menominee, Mich.," third edition, 1924, scale 1:15,000 or 1 inch to about 1,234 feet. This larger-scale map is based upon original surveys in 1865, upon surveys of the harbors of Marinette

and Menominee in 1905, and upon the plans of extensive harbor improvements up to the date of issue. Soundings are expressed in feet below standard low water datum, i.e., 578.5 feet above mean sea level.

This map shows a long narrow body of land near the northern bank of the Menominee River opposite the city of Menominee. It is marked with the name "M. R. Sugar Co." East of it across a palpably artificial or enlarged canal is an angular body of land marked with the name "Central West Coal Co." The canal between the two is 8 feet deep and less than 50 feet wide. These two bodies of land might be presumed to be the "Sugar Island" of the decree. No island name appears upon the map.

Between this island and the mainland of Michigan is a body of water from 3 to 6 feet deep with extremes of $1\frac{1}{2}$ and 14 feet. The Menominee River elsewhere in the vicinity, except where dredged or dammed, is $1\frac{1}{2}$ to 5 feet deep. The channel between "Sugar Island" and the Michigan mainland is 150 to 300 feet wide. "Sugar Island" is connected with the mainland (a) by two foot-bridges or vehicle bridges, (b) by a railway bridge, and (c) via islands to the northwest by a second railway bridge.

One large body of land and three small ones, lying northwest of "Sugar Island" might possibly be considered to be parts of a composite "Sugar Island" or of a "Sugar Archipelago." If not, the geographer's perplexity is doubled, since the State boundary would be complicated beyond reason. The four islands northwest of the body of land containing the buildings of the M. R. Sugar Co. are separated from the mainland of Michigan to the north by a channel of Menominee River which is 3 to 7 feet deep. It is deeper than the wide channels south of these four islands.

Sheets 26, 31, and 32 of the Sanborn Map Company's "Insurance Map of Menominee, Menominee County, Michigan," New York, 1921, scale 1 inch to 50 feet, demonstrate that "Sugar Island" is connected with the Michigan mainland by wooden bridges and not by fills of earth or stone. The buildings on the island are shown upon this map to be substantial and extensive structures of wood, brick, and iron.

The "Standard Atlas of Menominee County, Michigan," published by G. A. Ogle & Co. of Chicago in 1912, shows the south part of the city of Menominee on plate 11, scale 1 inch to 400 feet. "Sugar Island" is not shown as a part of the city to the extent of

being colored or subdivided into lots. The large island northwest of Sugar Island bears the name of the "Carpenter Cook Co."

T. R. Hasley and Co.'s "Map of the City of Marinette and the Outlet of the Menominee River," scale 1 inch to 250 feet, published in 1889, shows "Sugar Island" not colored as a part of Wisconsin. This island there bears the name of the "Ludington, Wells and Van Schaick Co."

L. M. Mann's "Map of the Menominee River, Mich. and Wis.," scale 1:3,000, published in 1889, appears in House Ex. Doc. 34, 51st Congress, 1st Session. It gives no name either to "Sugar Island" or the bodies of land northwest of it, except the company name quoted at the end of the preceding paragraph. There are no public land survey lines, Section numbers, or lot numbers on this or the preceding maps.

The U. S. Lake Survey chart of the "South End of Green Bay," published in 1864 on the scale 1:120,000, attaches the name "Grassy Island" to the Carpenter Cook Co. island northwest of "Sugar Island," as does Chaffee and Booth's map of the west coast of Green Bay, published in 1865, which was Michigan Exhibit 101.

One wonders, therefore, just where "Sugar Island," formerly called "Kirby Island," is located, exactly what the name includes, and why this body of land was determined to be part of Michigan. It is curious, also, that neither "Grassy Island" nor the three small islands between it and "Sugar Island" were determined to be part of Michigan.

It appears, however, that the problem arose through some such train of circumstances as the following:

(1) Michigan said in 1923 (Bill of Complaint, page 37): "many of said islands (i.e., in the Menominee River) are valuable . . . as regards assessment valuations, and at or near the mouth of said river [i.e., the Menominee] the City of Menominee is located in Michigan, and the City of Marinette in Wisconsin, with interstate street and railway bridge connection, wherein and whereon the line of jurisdiction becomes often important." The amusing bridge incidents of 1863-67 and 1894-95 regarding another island at Marinette-Menominee have already been described.

(2) Michigan said in 1925 [Brief, page 32] that Island No. 21 was Sugar Island, that it was surveyed as "Lot 6, Sec. 3-31-27 [i.e. Section 3, T. 31 N., R. 27 W.] Mich.," and was not shown on Wisconsin plats, that it was occupied by the Menominee River Sugar Company and the Central West Coal Company. She added

that "this island is now under Plaintiff's jurisdiction, but is within the Wisconsin conditional grant and its claims in the answer herein."

(3) Wisconsin commented upon this in the same year [Brief, pp. 355-6], quoting the foregoing and pointing out (a) that a Michigan engineers' report of Sept. 19, 1921 [Mich. Exhibit 172] merely said "the large island below this point being the site of the Montreal River Sugar Company factory and the Central West Coal Company plant, is also on the Michigan side." Wisconsin went on to say: "No claim was made that this island at that time was surveyed in Michigan, and there is no evidence in the record except an assertion by counsel at one point that this island had been surveyed in Michigan. He did not testify when this was done, by what authority. He did not offer any evidence how long, if at all, it had been taxed, or what steps had been taken by Michigan to claim the island. The fact that he had not discovered in 1921 that this island was surveyed in Michigan when he signed the report with engineers Burrige and Rupp indicates quite clearly to our mind, that if any survey was made, it was made for purposes of convenience, and made since the inception of this controversy. At any rate, there is no evidence in the record upon which counsel can now claim that this island has been claimed by Michigan with the assent of Wisconsin, or that Michigan has done anything inconsistent with Wisconsin's right to the island in question."

(4) Michigan subsequently said [Reply Brief, page 10] "to hold the Constitution of 1850 as a ratification [of Cram's plan for dividing the Menominee islands, or a ratification of the boundary descriptions of 1846 and 1848 in which Congress adopted Cram's plan] would be to determine in effect that plaintiff must surrender to defendant . . . Sugar Island, although not claimed by Wisconsin in its answer." She also said [loc. cit., page 11]: "Sheet 36, Defendant's Exhibit 197, shows the survey of Sugar Island in Michigan."

(5) Wisconsin replied somewhat as follows [Reply Brief, pp. 6, 7, 8, 9, 10]: (a) "There is nothing in our answer to indicate that we have waived any claim as to Sugar Island . . ."; (b) Sugar Island is "claimed by Wisconsin"; "Sugar Island, so far as we have been able to find from the records, has never been claimed by Michigan"; (c) "as to Sugar Island, they claim that 'sheet 36, defendant's Exhibit 197 shows the survey of Sugar Island in Michigan.' We have again examined this sheet. It shows the outlines of nine islands, none of which, however, were surveyed so far as

the plat shows. No meander lines or posts are indicated or referred to on this plat. . . . The fact is that counsel have been unable to find anywhere in the record any evidence that a single island recognized by the Federal Government as an island below Quinnesec Falls has ever been surveyed in Michigan . . . we conclude that Michigan is still willing to stand by the bargain made by her Congressman McClelland in 1846."

(6) It is inconceivable to a geographer that Michigan [i.e., the city of Menominee] never taxed and administered Sugar Island, but no word of specific evidence respecting this point appears to have been laid before the Supreme Court before the Opinion was rendered.

(7) Wisconsin had an impression, one gathers, that the value of Sugar Island was between one and two million dollars, since it lies on the fringes of, if not actually within, the city of Menominee and upon the busiest part of its riverfront.

(8) Michigan lost more than 100% of her claims in the boundary suit of 1923-26, for Wisconsin retained all that she had and was confirmed in her rights to some fourteen islands in the Menominee River which she appears never to have administered or taxed, and to undeveloped hydroelectric power sites of great potential value.

(9) Special Counsel for Michigan lives in Menominee, Michigan; according to a literal construction of the Supreme Court's Opinion of March 1, 1826, he lost everything including part of his home town.

(10) Wisconsin was a good neighbor and did not insist on her right to "Sugar Island."

One sees, therefore, how it came about that the attorneys for Wisconsin and Michigan wanted the court to award "Sugar Island" to Michigan, although it is a Menominee River island below Quinnesec Falls and, by the exact terms of the Opinion of March 1, 1926, was to be thrown into Wisconsin. "Merryman's Island," farther up the Menominee River (Fig. 4), which is also mentioned by name in the decree, was conceded to Michigan by Wisconsin.

Any jury of geographers would say that the bodies of land called "Sugar Island" are really islands, despite all of man's reshaping of their borders in minor ways. There appear to be few if any cases in which men of legal training have asked a high court to call an island which is still completely surrounded by

water the year round by any name but i-s-l-a-n-d. This shows that lawyers need geographers as advisers sometimes. One cheerfully grants that geographers often need legal advisers. But let us quarrel peaceably for a moment about words.

Is an island in non-tidal waters of a humid region ever part of a mainland?

Is an island to be one thing in geography and another thing in law?

How can the attorneys who presented to the Supreme Court of the United States an agreed form for this decree assert that a body of land completely surrounded at all times of the year by the waters of the Menominee River is "part of the mainland of Michigan?"

Accordingly, unless Sugar Island is largely made-land, i.e., reclaimed river bottom, as may actually turn out to be the case regarding part of it, or unless all the maps are wrong, the word i-s-l-a-n-d was used this once, by lawyers, in a non-geographical sense, in order to put State neighborliness into effect for the intent of the Supreme Court's decree, unquestionably, was to leave Sugar Island in its entirety as a part of the city and county of Menominee, Michigan. It could have been equally well accomplished, however, if the Attorneys General and Special Counsel of the two States had omitted the three words "of the mainland," and suggested that the decree read: "Sugar Island [specifying its limits] is determined to be part of Michigan."

This cheerful grumbling doubtless demonstrates to lawyers that the notions of geographers really are "incompetent, irrelevant, and immaterial." Anyway the decree of Nov. 22, 1926, was intended to be so phrased as to allow Michigan to retain "Sugar Island," and Wisconsin seems to have cheerfully acquiesced. The outcome is interesting.

Are there Errors in the Phraseology of the Decree?—The actual phraseology of the decree is, of course, based upon the suggestions of the Attorneys General and the Counsel of the two States. The Supreme Court ended its Opinion with the words already quoted to the effect that "the boundary seems to be sufficiently defined for all purposes of future possession and jurisdiction." If the parties to the suit, or either of them, had *not* deemed it advisable to "submit a form of a decree more particularly to carry this Opinion into effect" the suit would have ended with "a simple decree dismissing the bill."

The history of the decree appears to be essentially as follows: The records of the Supreme Court show that on Sept. 14, 1926, Wisconsin submitted a printed form of decree. It described the boundary between Michigan and Wisconsin from east to west, referring to the ship channel "north of Rock Island and north and west of Chambers Island" without describing the boundary by courses and distances. It indicated that all islands in the Menominee River below Quinnesec Falls were to belong to Wisconsin and that all islands above that point in the Menominee and the Brule were to belong to Michigan. It called Lac Vieux Desert by the name "Lake of the Desert." Michigan filed objections shortly after October 4, 1926, on the ground that the boundary ought to be described from west to east as in the Opinion, and on the further grounds that the form of decree proposed by Wisconsin did not "in any way define what are to be considered islands in the Menominee River," and that the rights of Michigan "to the lands now held by it, known as Merryman's and Sugar islands are jeopardized." Michigan submitted at the same time a printed form of decree, accompanied by a map of the southern portion of the city of Menominee which had been made by the city engineer. The form of decree described the State boundary from west to east. It substituted the name "Lake Vieux Dessert" for the name "Lake of the Desert." It introduced a description of the boundary in Green Bay by courses and distances, and provided that "no land now occupied or taxed as a part of the State of Michigan shall be considered as an island" under the provisions which gave all islands in the Menominee River below Quinnesec Falls to Wisconsin.

Subsequently one may imagine that Counsel for both States jointly submitted a typewritten or other form of decree substantially like the decree which is now in force.

A geographer may study the technical boundary description and attempt to plot it accurately upon a map or chart. Having done so, he may feel moved to observe that, if this decree were to be modified some time, it might be well for Counsel for the two States to consider suggesting that the Court approve some half dozen groups of changes in phraseology.

These relate (1) to the use of the Congress' words "Lake of the Desert" rather than the words "Lac Vieux Desert," locally used for the turning point in the straight-line boundaries, (2) to the definition of what bodies of land constitute "Sugar Island," to the words which shall be used in attributing it to Michigan, to

the use, in the technical description of "Sugar Island," of the words "Michigan Public Survey" rather than the words "Michigan Meridian," and (3) to the courses and distances which the water boundary is to follow in Green Bay and Lake Michigan. Within the latter the following points may be considered:

(a) the miles on the several courses might be specified to be statute miles rather than geographical or nautical miles;

(b) the distance on the initial course might be remeasured and restated, as it is less than $7\frac{1}{2}$ miles from (i) "a point midway between the outer ends of the Menominee River piers" to (ii) the steamship track which the ensuing course follows; the distance specified seems to be some part of half a mile too long to fit between two preconceived ends;

(c) the bearings might follow the best modern practice as to boundary description and be expressed in degrees;

(d) most important of all, the courses and distances between Chambers Island and Rock Island Passage might be rephrased so as to have the boundary follow the western and northern of Captain Cram's ship channels of 1840 rather than the tracks of modern, powered vessels; this would keep the State boundary a bit farther off the coasts of Washington Island and Rock Island and make it possible to use the lighted and easily-identified Whaleback Shoal and St. Martin Shoal as turning points in the water boundary.

There are two apparent errors of greater gravity in the phraseology of the boundary description, however. A geographer thinks that Wisconsin may be said to have been for three years the *de jure* sovereign of (a) a couple of small but valuable land areas in the suburbs of Menominee, Michigan, (b) a large expanse of water in Green Bay, (c) a substantial area in Lake Michigan, (d) $6\frac{1}{2}$ islands between Green Bay and Lake Michigan, and (e) a small portion of the mainland of Michigan. All of this land and water the Supreme Court of the United States seems to have in no wise purposed giving Wisconsin in 1926. A literal construction of the boundary decree of Nov. 22 of that year leads to this conclusion.

The parcels of land and expanses of water to which reference is made are enumerated below:

(a) the whole of the "Sugar Island" of the decree seems to be left in the possession of Wisconsin (Fig. 6);

(b and c) Wisconsin acquires approximately 713 square miles of the waters of Green Bay and Lake Michigan (Fig. 7), including the areas of $6\frac{1}{2}$ islands specified below;

(d) the Badger State is given two large insular areas (St. Martin's and Big Summer Islands), and half of another (Little Summer Island), as well as four small bodies of land in Green Bay (Poverty, Gravelly, Gull and Little Gull Islands); all of these islands are devoid of settled population except Poverty Island and St. Martin's Island, each of which is inhabited by three light-keepers and their families;

(e) the defendant in this case also receives part of the mainland of the Upper Peninsula of Michigan at Pt. Detour.

All of this land in Green Bay adds up to 4,255 acres, no part of which was in dispute from 1836 to 1926.

It might almost be asserted that both Michigan and Wisconsin officially acquiesced in 1927 in this unexpected outcome of the boundary suit. The laws of Wisconsin for 1927 include Chapter 157, approved May 25, 1927, in which the State legislature formally provides as follows: "A temporary commission is hereby created to act jointly with a similar commission of the State of Michigan to permanently mark the Michigan-Wisconsin boundary in conformity with the decision of the United States Supreme Court in the Michigan-Wisconsin boundary case." The law says that the commission "shall consist of the state chief engineer, but if the State of Michigan shall appoint a commission of three, the governor shall appoint two additional members." The Public Acts of Michigan for that year include No. 282, approved May 31, 1927, in which the State legislature provides for a creation of "a special commission consisting of three members" to be appointed by the governor. The law says that this commission "shall, in cooperation with the attorney general of this state and with any similar commission or proper officers of the State of Wisconsin, proceed to designate and mark the overland boundary between the State of Michigan and the State of Wisconsin in accordance with the order and decree of the Supreme Court of the United States entered November twenty-second, nineteen hundred twenty six." Wisconsin provided a sum sufficient to pay half the cost of marking the boundary permanently. Michigan appropriated \$5000.

If one had any lingering doubts that Michigan and Wisconsin have ratified and accepted the boundary decree of 1926, he need only examine the "Report to the Legislature by the Michigan Boundary Commission," published at Lansing in 1928, with its account of boundary commission meetings and the text of a joint contract between Michigan, Wisconsin, and a federal surveyor.

A joint meeting was actually held at Menominee, Michigan, where an overland boundary, not yet marked, crosses "Grassy Island." The cover of the report bears the seal of Michigan with the excellent Latin admonition *circumspice*.

Moreover the new State boundary appears to have been formally accepted in 1928 by both Michigan, Wisconsin, and the Congress of the United States (see H. R. Res. 176, approved Mar. 10, 1928, and embodying the joint agreement of the two State Highway Commissions, executed Jan. 14, 1927, that "the State boundary line, as determined by the United States Supreme Court in a late decision, lies entirely north of the proposed actual structure [an interstate highway bridge] spanning the Menominee River"). At least Congress consented to the agreement that includes this statement that the boundary lies north of the several islands, and therefore "Grassy Island" lies in Wisconsin.

The anomalous situation respecting the islands north of Rock Island Passage arose through two unintentional errors in the phraseology of the decree, one respecting lots and sections of the public land survey, the other as a result of an unverified description of one course in the water boundary.

The following tabular comparison brings out the differences between two phrases in the decree, on the one hand, and the actualities of geography, on the other, as revealed by the original Land Office plat approved in 1848 (Fig. 7), by Chart 723 of the U. S. Lake Survey issued in 1924, and by geographical inquisitiveness.

The Decree

(a) leaves to Michigan the land in Township 31 North, Range 27 West, Michigan Public Survey [i.e., Michigan Meridian], "known as 'Sugar Island,' being a part of lots 1 and 2, Section 11 . . ."

"lot 6 of Section 2"

Relation to "Sugar Island"

lot 1 in Section 11 of the Michigan township referred to does not appear to touch any part of the modern "Sugar Island"; the land specified seems to be in no way insular and appears to have been a part of the mainland of Michigan from the days of the earliest settlement and surveying;

lot 2 was meant to include the eastern portion of "Sugar Island"; islands, however, are understood not to be, legally, parts of lots unless so shown.

lot 6 appears to include the eastern tip of "Grassy Island" [not mentioned in the decree] and to lie westerly of "Sugar Island"; "Grassy Island" was surveyed into lots in 1848, in contrast to "Sugar Island" which was not.

and "lot 1 of Section 3"

lot 1 of Section 3 appears to include the eastern half of Grassy or Carpenter Cook Co. Island, adjacent to lot 6 of Section 2.

Here it seems as if all of "Sugar Island" is left to Wisconsin, together with the western half of "Grassy Island," but Michigan is confirmed in the possession of all of the mainland and acquires the eastern half of "Grassy Island." The resulting State boundary is intricate beyond belief.

The Decree

(b) carries the boundary in Green Bay through two courses which are $10\frac{1}{4}$ to $15\frac{1}{2}$ miles apart

(i) "passing . . . westerly of Chambers Island and through the Rock Island Passage into Lake Michigan . . ."

(ii) from a point two miles west of the Chambers Island lighthouse "north by east seven-eighths east, twenty-seven miles, thence . . ."

Relation to Rock Island Passage

this is as Wisconsin contended and as the Opinion appears to decide

in this clause the substitution of the three words "north by east" for the one word "northeast" results in a divergence of about 33 degrees between the course described and the course contemplated and in carrying the boundary into Lake Michigan via Little Summer Island and Pt. Detour (Fig. 8) rather than "through the Rock Island Passage."

Here a superfluous word, one word, a two-letter word, the word *by*, may be said to either result in a downright contradiction of boundary definition or to technically transfer some 707 square miles of water and 4,255 acres of land from Michigan to Wisconsin.

The remedy appears to be perfectly simple. Counsel for the two States, when they become conscious of this situation through the activities of the special boundary commission which each created in 1927, or otherwise, might agree upon and submit a new form of decree, (a) adding appropriate words to the description of "Sugar Island," as well as deleting a few, and (b) omitting the superfluous word *by* from one course in Green Bay. Other modifications have been suggested above. One may imagine that when and if the two States take the proper steps, the Supreme Court of the United States may be willing to consider ordering, adjudging, and decreeing such a modified boundary description.

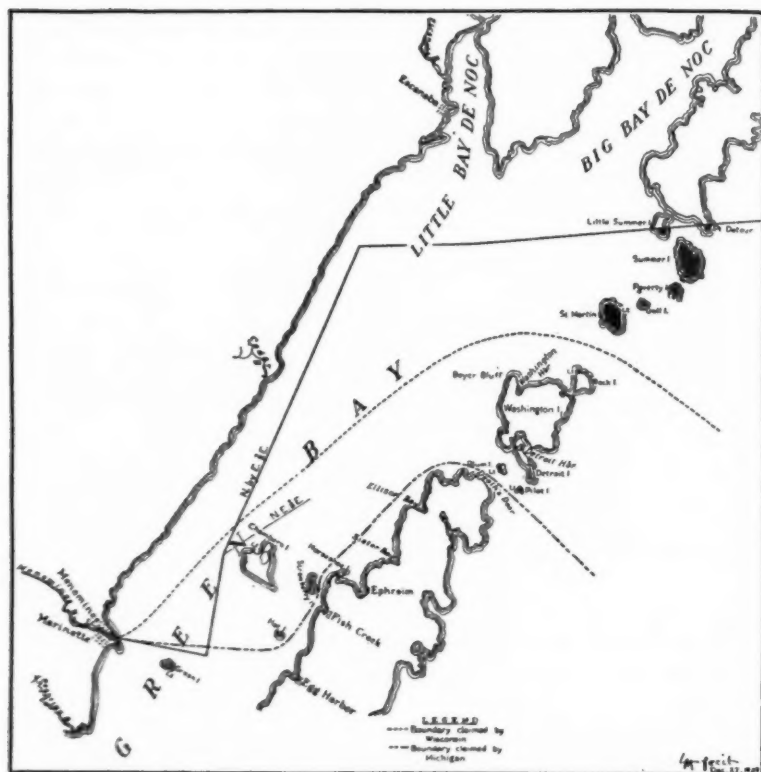


FIG. 8.—The *de jure* boundary in Green Bay by which 4,255 acres of land and 707 square miles of water, which were not in dispute, were transferred in 1926 from Michigan to Wisconsin.

Fishing and the New Boundary Dispute.—Following the revelation of this ambiguous situation to the authorities in Wisconsin and Michigan through the announcement at the meeting of the Association of American Geographers in December, 1929, new complications have arisen.

Wisconsin fishermen have always fished through the ice in winter in the portion of Green Bay directly east of Marinette, Wisconsin, and southwest of Chambers Island (Fig. 8). During the first week in February, 1930, they were informed by the Michigan authorities that each fisherman must pay \$200 for a license to fish in this portion of Michigan rather than \$1 for each 2,000

linear feet of net used, as in Wisconsin. The area involved is about 33 square miles, and there is no ambiguity about its description as an area awarded by the Supreme Court to Michigan.

The authorities in Wisconsin are said to have retaliated by threatening to collect license fees from Michigan fishermen who frequented the 707 square miles of Green Bay and Lake Michigan waters which have always been regarded as part of Michigan but which the decree in this case either awards to Wisconsin or leaves in ambiguity.

Conferences at Chicago between representatives of the Attorneys General of the two States on Feb. 14, and at Washington, D. C., with one of the justices of the Supreme Court on Feb. 21, 1930, have thus far resulted in no positive steps towards a solution of the fishing problem or a new boundary decree.

COST OF THE MICHIGAN-WISCONSIN BOUNDARY CASE

Failures of adjacent commonwealths to agree upon their limits are expensive. They use up time. They waste money. In time the Michigan-Wisconsin boundary suit cost the residents of the two States heavily. There should have been no substantial expense after Congress provided in 1838 that the 1836 boundary should be "surveyed, marked and designated," and furnished \$3,000 for the purpose, reappropriating this sum in 1840 when Captain Cram made his first survey.

Thomas Jefferson Cram of the U. S. Army began to worry about the matter in 1840. Douglas Houghton wrote Governor William Woodbridge about it. He in turn informed the Michigan State legislature in 1841. They passed two Joint Resolutions, memorializing Congress to have the boundary line between Michigan and Wisconsin established. Congress talked things over at the instance of Michigan Congressmen in 1841 and appropriated \$6,000 to be expended under the Secretary of War for the purpose of designating and marking this boundary. This resulted in Captain Cram's second survey. More time of Michigan Congressmen and of the Wisconsin Delegate was spent between 1841 and 1848—time worth substantial numbers of dollars. The Legislative Assembly of the Wisconsin Territory adopted a resolution in 1842. Congress appropriated \$7,000 in 1842 "for completing survey of the boundary. . . ."; this money appears to have been spent on a survey of Green Bay.

The Burt survey of 1846-47 cost \$1,000. Before and after that, uncalculated time was consumed by State legislators and governors, as well as by federal Representatives and Senators.

Thus \$17,000 were appropriated by Congress for surveying and marking this boundary between 1838 and 1847. Of this sum \$8,613.97 appear to have been expended upon the Cram surveys inland and upon the Burt survey. The straight-line sections of this boundary seemed to be settled by the Burt survey and boundary marking. The Montreal River boundary appeared to be all fixed. But there were still lurking doubts as to the "main" or "most usual" ship channels and the lake islands. There was no clear understanding as to the river islands in the Menominee and the Brule.

Then the Michigan Constitutional Conventions of 1850, 1867, 1873, and 1907-1908 worried about the matter, and members of the conventions spent additional time. The Wisconsin legislature gave time to the matter at various periods. An engineer, George H. Cannon, devoted thought to the problem, beginning in 1885. He and others, like Claude S. Larzelere in 1905, got the famous and influential Pierre Le Blanc, or Peter White, of Marquette, Michigan, sufficiently worried so that the Attorney General of Michigan was enlisted in the corps of worriers and time-spenders about 1907. A Michigan commission went to call on the governor of Wisconsin. He refused to worry. The Michigan legislature gave more time to the matter in May, 1907. The staff of the Attorney General made more plans. A Michigan engineer, J. B. Davis, was employed to study the boundary problem in the field and that cost an unrevealed sum of money.

In 1919 the legislature of Michigan devoted more time to the boundary worries at an extra session. Under Public Act No. 15 the governor appointed another commission which devoted substantial amounts of time and \$5,000 to gathering evidence, interviewing witnesses, and cogitating over laws. In 1921 the legislature of Michigan amended the 1919 Act by Public Act. No. 276 which provides for reimbursement for actual expenses incurred by members of the boundary commission. The commission sent a representative to call on the governor and the executive counsel of Wisconsin. But the latter refused to worry. At an extra session in 1921 the legislature of Michigan again amended the 1919 Act as amended. Public Act No. 30 appropriates \$5,000 and authorizes the Attorney General of Michigan, upon completion of an investigation, to take legal steps, if he deems it advisable,

as well as to employ special counsel, the expense to be paid out of the general fund.

Finally the present boundary suit was brought in 1923. Time and money then began to be spent freely by Michigan and Wisconsin and time by the busy Supreme Court of the United States.

The costs of this proceeding in the Supreme Court alone, aside from the compensation and expenses of the two Special Commissioners, were \$2,260.75 divided equally between Michigan and Wisconsin. The total visible costs of this boundary misunderstanding were, at least, (a) by the Congress of the United States from 1838 to 1847 some \$17,000; (b) by the State of Michigan from 1907 to 1928, a sum in excess of \$53,353.94; (c) by the State of Wisconsin from 1923 to 1928 something more than \$30,000.

Therefore, during the 90 years from 1838 to 1928, monies greater in amount than \$100,000 were devoted to studying, determining, and marking the boundary between Michigan and Wisconsin.

But what of it if all this comedy of errors from 1836 to 1930 did cost the United States, Michigan, and Wisconsin upwards of \$100,000? That total sum, saying nothing about 10% more in State taxes, would come back to Wisconsin in less than three years if the county tax rate remained at what the county of Menominee, Michigan, collected from the two companies which own the so-called "Sugar Island," and if Marinette County, Wisconsin, were to collect the annual taxes of \$35,258.45 on this island alone.

WAS THERE NEED OF A JUDICIAL SETTLEMENT OF THIS BOUNDARY?

Asking the question implies that a geographer is of two minds as to whether there was need of a judicial settlement of the Michigan-Wisconsin boundary in 1923-26. Now that the Supreme Court has spoken and the boundary is all but fixed, it is easy to see things which were not apparent in 1923. The only point in speculating about the matter is that, if there was no real need of this expensive suit, other States may be impelled to think carefully before submitting cognate misunderstandings to judicial settlement. Your President realizes that this is philosophy rather than geography.

A summary of the evidence and of the arguments and the weight given them by our highest judicial body impels one to present the thesis that the only part of this boundary suit which was really

necessary was that regarding the 130-odd islands in the Menominee River and the Brule.

Congress and Michigan left that in ambiguity. But Wisconsin and Michigan could have settled it through conference in 1921 followed by a simple recommendation to Congress, provided of course that both States had the *will* to agree eventually. The governor of Wisconsin was tactically right when he allowed his spokesman to say in 1921, or so it is narrated, that "Michigan has nothing which Wisconsin claims . . . the legislature would not surrender any territory of which the State is possessed unless compelled to do so by the court." But as a neighbor he seems to a geographer to have been wrong. He also said something that did not turn out to be economical. Michigan erred in 1846-48 in leaving these river islands in ambiguity. She may have made a second mistake, however, in 1919-23 in claiming too much, in not confining the issue to the river islands alone, in not trying again and again for a settlement out of court, at least it seems so to a geographical bystander. For upon States, as upon men, controversies may leave regrettable scars.

The problems with respect to the "most usual" or "main" ship channels and the lake islands almost settled themselves more than 90 years ago when federal authorities mapped the islands concerned as parts of Wisconsin. All serious doubt as to the outcome ended 64 years ago when Michigan stood by and permitted her neighbor to begin to administer these bodies of land within the entrance to Green Bay.

The questions regarding the identity of the "Lake of the Desert," and respecting the point which was to be identified as the "headwaters" of the Montreal River, settled themselves 80 years ago when Congress appropriated money for the Burt survey and a Surveyor General from Michigan approved the boundary as mapped and marked. For here, too, Wisconsin has administered the territory without interruption, and the convenience of the common people in three-tenths of a million acres of land is paramount, rather than the pride of a State.

Without evaluating evidence or speculating about equity, one has only to survey the Supreme Court. Ask yourself these questions:

Has your neighbor possession of the property?

Has he had it a long time—a long, long time?

Does the Supreme Court frequently, or in fact ever, depart from a hoary precedent or from a rule that was carefully thought out and that has worked well?

If not, think twice.

This was the very court, mind you, that spoke in 1846, as it has frequently done since, to the very point of long possession. It was in one of the boundary cases of Rhode Island versus Massachusetts. Mr. Justice McLean read the Opinion, and one likes to think that to him, rather than to the whole bench, are to be ascribed its logic and wisdom and fragrant diction.

"No human transactions," said the justice, "are unaffected by time. Its influence is seen on all things subject to change. And this is peculiarly the case in regard to matters which rest in memory, and which consequently fade with the lapse of time, and fall with the lives of individuals. For the security of rights, whether of States or individuals, long possession under a claim of title is protected. And there is no controversy in which this great principle may be invoked with greater justice and propriety than in a case of disputed boundary."

Profiles of the Retail Business Section of Nashville, Tenn., and their Interpretation

A. E. PARKINS

Urban studies have been quite generally neglected by American geographers, if we may judge from the programs of this Association and published papers. We have had papers on the location and growth of a few selected cities, a few papers on the localization of industries, a few on particular industries, and some on the distribution of population within the urban group. We have had presented to us a few reconnaissance maps; but very few reports of detailed mapping and detailed studies. Our reluctance to enter the field is probably due to the complexity of the problems confronting us in urban geography and the apparent dominance of the *anthropo* factor in city phenomena. While we have hesitated to enter this field with the vigor and enthusiasm that characterize our studies in rural geography, regional geography, and industrial geography, investigators in other fields—sociologists, economists, realtors, and others—who deal with human society in its many forms and functions quite apart from the physical environment, have each found much to their liking. Thus a great body of facts and principles regarding realty values, rental values, traffic movement, urban morphology or structure, and other phases of city phenomena may be found in the many publications, books, and magazines, prepared for use in realty courses in colleges and for general reading. The trained geographer, in studying these reports, is struck at once with the general lack of scientific procedure. The generalizations, excellent as they may be, appear largely subjective. Few apparently are based on exact scientific investigation, careful mapping, and detailed study of a large number of urban groups, and particularly of urban groups differing in size, function, and environmental location. Here, then, is a field for the geographer, one of absorbing interest and real value and readily accessible, and one that offers years of work for each of us in our own locality.

The offering the writer is making in this paper is but one of many that have been planned for Nashville and other nearby urban centers. He is convinced that progress in urban geography will be made only by a comparative study of a large number of urban centers.

THE GENERAL OBJECTIVE IN URBAN GEOGRAPHY

The keynote of our work in urban geography has been land utilization. We began by collecting data for a reconnaissance map of the city on which were shown:

1. the distribution of manufactural lands;
2. the commercial lands;
3. the residential lands—four classes;
4. transportation lands;
5. lands used for educational, recreational, ethical, and governmental purposes; and
6. unoccupied and agricultural lands.

Data for this map were collected and completely checked (by a second group of students) in six months, six hours per week, of field work. Inasmuch as only a small part of this map is directly associated with the study here presented it is not reproduced in this paper. The study in this paper is concerned with the commercial district or business area but more particularly with the retail section of the commercial area.

The profiles and associated data represent the work of some three months in the field and draughting room. Much of the field work was done with the assistance of graduate students.

SPECIFIC OBJECTIVES

We set up as our particular problem in a study of the business section:

- (1) to locate the most important retail district; and the sub-sections of the retail district;
- (2) to measure in some objective way the intensity of land utilization in the various sub-sections of the retail district;
- (3) to discover what physical conditions man was adjusting himself to in locating the retail district, and particularly in locating the most used sub-sections; and
- (4) to work out the direction of expansion of the retail business section.

Intensity of use, we decided, is to be measured by:

1. the height of the buildings, i.e. number of stories on the site;
2. the percentage of the buildings used actively and for storage;
3. the quality of the buildings;
4. the quality of occupancy;
5. the type of occupancy, i.e. the particular kind of business.

We decided that these elements could best be shown graphically by profiling selected streets in the business section.¹

The accompanying profiles are an attempt to show graphically all these five items (Fig. 2). Figure 1 shows the location of the streets profiled. The profiles are drawn to scales. The horizontal distances were obtained by pacing. We arbitrarily used fifteen feet as the height of a story. The depth of the buildings is not shown, but is approximately the same for any group of buildings in any particular block. The buildings, as a rule, run back to an alley. Intensity of use of a site is measured more by frontage and height than by depth. In fixing rents and tax valuations, for *first-story* property at least, a 4-3-2-1 rule is much used; that is, the first quarter of a building of average length, say, 100 to 150 feet, pays 40% of the rent and taxes; the second quarter, 30%, and so on. A building 50 feet deep will pay 70% of the taxes and rent that a 100-foot nearby building would pay.

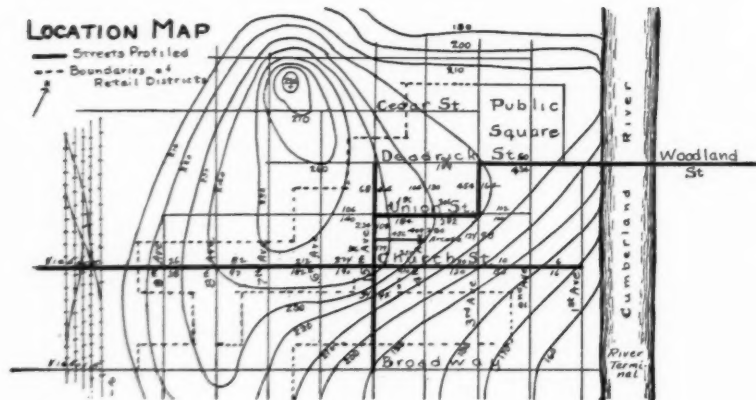


FIG. 1—The retail center of Nashville, Tennessee. Contours in feet.

The legend indicates that seven types of space utilization are recognized, namely, sales, services, manufacturing, transportation, education and the like, offices and residences. Space used for storage and vacant space also are shown. The quality of the building is indicated by a letter, A, B, C, or D above building. The assigned

¹The use of the profile in representing intensity of use of space was suggested by C. C. Colby at an informal group conference in May, 1929.

*quality is a loose judgment, wholly subjective.*² The quality of the business is indicated by a letter below the rectangle. Again, this ranking is a matter of judgment, even more difficult to make than for the buildings. In ranking the individual stores as to quality, a jewelry store was compared with other jewelry stores; a shoe store with other shoe stores, a department store with other department stores, in Nashville.

Our knowledge of the city enabled us to select, tentatively, the more important streets. We afterwards confirmed our selection quantitatively. We drew some of our profiles across these most important business streets or sections of streets. Our first profile (A) was along the north side of the main arterial street or the business area of the city, Church Street, from the river to the edge of the residential district on the west. On lower Church, the east end, there are several old buildings with much storage space or vacant space. Between Third and Fourth, a modern storage garage and a new hotel have been erected recently. Retail business begins at the corner of Fourth. The quality of buildings and business in general is the highest from Fifth to Seventh. Most of the buildings are new and are the largest in the retail business sections of the city.

It is highly desirable that some scheme be devised for measuring intensity of use quantitatively. The diversity of the elements involved offers difficulties, yet one *can* add five apples, five pears, and five bananas and call the sum fifteen pieces of fruit. This is what we did. We also ignored the fact that in some stores the front half is more active than the back half and that by contrast, most of the floor area in a department store is sales space. We were dealing with a profile. We measured the units of sales space on the profile. Our unit is a rectangle the average width, or fraction thereof, of a business site one story high. We call this a *unit of business space*. Using this as a yard stick there are 17 units in active use between Fourth and Fifth; 34 between Fifth and Sixth; 35 between Sixth and Seventh; and 7 between Seventh and Eighth. Eastward beyond Fourth, the units by blocks are zero, zero, and zero.

The second profile (B) crosses Church Street and extends from Broadway, on which there is a secondary retail district, northward through an old residential district in the commercialization stage and on northward nearly to the edge of the residential district.

²The type of business may be indicated by such abbreviations as Dgs for drug store; W. Ap. for women's apparel; M. Fhs. for men's furnishings, etc. For studies of the distribution of types of business such designation is essential.

Retail business units along this street are zero, zero, zero, 45, and 8. The most active block is between Church and Union streets. This is a long block. To compare quantitatively with Church Street we must take about two-thirds of the 45 units. This gives us about 30 units.

On Union street at right angles to Fifth Avenue, the most active section is the two blocks between Fifth and Third. The units of active business space here are 32 and 19. (Profile C.)

Third Avenue, northward from Union, is the most actively used of any of its group of parallel streets. (Profile D.) It is on the south of the Square that one finds the greatest commercial activity in this oldest business section of the city. (Profile E.)

The profiles so far discussed, represent the north and west sides of the respective streets up to the Square. These give a fair sampling of what one finds in a cross-section of the most important retail sections or sub-section. Profiles were also made (but not reproduced for this paper) of the south side of Church and the east side of Fifth. These profiles differ slightly from those on the north and west sides. Why they differ is a problem not directly connected with the ones being discussed.

The most important retail trading center of the city, therefore, judging from the profiles, is clearly on Church from Seventh to Fifth, on Fifth from Church to Union, on Union from Fifth to Third, on Third from Church to the Square, and the south side of the Square (Fig. 1). The question naturally arises, why along this irregular path? The first part of the answer is because it is these streets and these particular blocks of these streets that carry the heaviest pedestrian traffic. Thorough acquaintance with the city enabled us to locate these sections, as I have said; but we confirmed our judgment by a few actual counts. The figures on the location map indicate the movement of pedestrians right and left in ten-minute intervals, the hours were between 10 and 12 on an average sunny day in July.³ Since relative numbers of pedestrians per block only were sought, this phase of the investigation was not carried far. The relation of pedestrian movement to shade and sun, to windy or sheltered sides of the streets, to the time of day, month, and to other items have no or little bearing on our problem, and hence data of this sort were not sought. That there

³The figures are for the middle of the block. Counts were made for both sides of the street.

is a rough correlation of intensity of use of space and pedestrian movement is readily seen from these data and the profiles.

FACTORS IN LOCALIZATION OF RETAIL DISTRICTS

Why is the pedestrian movement along these streets heavier than along others? Some would say because of the presence of certain types of stores on these streets. This is certainly an important factor. But stores are adjustments to human demands. Since women do most of the shopping (it is stated that they make eighty-four per cent of the family purchases), the wisest merchants, dealing in the commodities women desire, set up establishments where they know or expect women shoppers will travel.⁴ Apparently Nashville merchants know that Nashville shoppers prefer to travel on the level, for *the best traveled streets are essentially level*. One can travel from the Square south along Third, west on Union, south on Fifth, and west on Church, nowhere experiencing an appreciable grade. It seems, therefore, that adjustment to surface features is the explanation for the location of this most important business section.

Let us now consider the fourth of the particular problems earlier outlined in this paper, namely the factors in locating the lines of expansion of the most important retail section. As an approach permit me to sketch the story of its expansion, a story that may be partially read from the architectural features of the buildings (although such records are being destroyed by rapid replacement that is now in full swing), and supplemented by historical records, old maps, newspapers, and oral tradition. The oldest retail commercial district of the city is about the Square. The expansion of this oldest district followed the growth of the city in population. As the residential frontier gradually encroached on the rural lands about the margins of the urban area, the frontier of the commercial area encroached upon the older residential sections. On a level terrain with no barriers, the growth theoretically would have been radial and the best retail houses would be found on closely adjacent streets, the whole forming a compact arrangement. But natural and cultural features have offered conditions that have seriously interfered with the normal trend of expansion; first, the river and its floodplain on the east

⁴A department store now located on the corner of Seventh and Church lost money for many years, until business in general shifted that far westward. This store was moved from the corner of Fifth and Church some fifteen years ago.

side of the river; second, various slopes on the west side; and third, public buildings.

Expansion of the commercial area has been confined to the west side of the river. This is undoubtedly due to an interruption produced by the Cumberland River and its valley (See profile E). The land on the east side of the river is low for many blocks and for several rods from the water's edge is subject to frequent overflow. The east approach to the bridge is a long, high fill that has an appreciable slope. River, fill, inundated land, and an appreciable slope combine to check expansion eastward.

In passing we may mention another interesting adjustment to the river. The old palisaded settlement topped the highest part of the western bluff, i.e. where is now the Square, but after all this was not a river settlement, for the bluff, some 60 feet high, prevented direct or close contact between the land and the river boats. The river steamers have been restricted, in making landings in the vicinity of the business center of the city, to the lower lands near or at the foot of Broadway. Lower Broadway, therefore, was the port of the settlement on the bluff.

As for the adjustment to slopes made by the retail trade sections in its expansion on the west side of the river, I can best refer you to the contour map (Fig. 1). It shows the Square on a small tableland with north-facing and south-facing slopes. The north-facing slope continues westward some seven or eight blocks. The south-facing slope stretches southeasterly beyond Broadway. A prominent hill lies to the west and northwest, which may be called Capitol Hill. Expansion of the retail district in general, northward and southward in the vicinity of the Square was apparently checked by slopes. Westward expansion on Deadrick apparently was checked between Fifth and Sixth by the lower slopes of Capitol Hill. The same hill checked westward expansion on Union Street. Expansion in the retail section in the future beyond Sixth will be checked by the numerous well-built state buildings, hotels, insurance offices, and Christian Association buildings. Third Avenue begins to slope beyond the corner of Union Street. South of Union, therefore, Third was avoided by the better sort of retail stores that attract women. It is Fourth and Fifth avenues that carry the pedestrian traffic which moves between Church and Union, and there is a tendency for shoppers to shift from Fourth through the Arcade to Fifth. Expansion southward on Fifth across Church was checked, apparently by the steep slope shown

by the contours. Within a half block of Church on Fifth are four old residences preserved from annihilation by the advancing retail district frontier, by this slope. When Church Street was reached by the expanding frontier there was only one direction open for migration if slopes were to be avoided, and that was westward. Much of the expansion on Church has taken place within the last twenty years.

It is probable that here and there a popular store may have been a magnet for directing pedestrian traffic and business expansion. There are level lands on Deadrick that are used for business purposes, but there are only three important stores in three blocks. Topography, without a doubt, is the dominant factor in directing expansion. The street railway on Church, which carries cars from six lines, two of which extend beyond the city limits, has been an important stimulus to the development of retail business houses there when once that section was reached; but street railways can not be considered a dominating factor, for neither Fifth nor Union has a street railway, and no incoming cars traverse Fourth.

Expansion on Church in the future, if we may play the rôle of prophet, will not reach westward beyond Eighth, for the broad viaduct and railroad yards are barriers. Business houses are developing west of the viaduct, but few of the typical retail sort. Expansion will rather be southward on Eighth along the street railway and on level terrain. The commercialization of Fifth Avenue is now going on at a moderate pace (Fig. 3).

In the discussion of the causes of expansion of the retail business section, I have mentioned the increasing area of the residential districts and, thus, the increasing number of shoppers. This is certainly the dominant factor, but there is an urge within the retail section that, if it does not force expansion, results in the shifting of the types of business, particularly of the class-A types. Buildings, in the course of fifty, seventy-five, or more years, show the effects of weathering and human use; moreover in all growing American cities business expands in volume and demands more room. Changing styles of architecture, new creations in plumbing, lighting, and elevators make the building out of date. For these many reasons progressive business men shift from the old buildings to the new through necessity or sheer pride. This shifting is an adaptation to weathering and the passage of time.

The profile of Broadway—limited space does not permit its reproduction in this paper—shows two quite distinct types of

retail districts. One is in old age (eastern or lower Broadway); the other in the present and the future.⁵ One is almost dormant, the other throbbing with activity and expanding. One developed in the steamboat and horse-drawn vehicular stage; the other in the automobile era. These two areas are likely to remain isolated from each other, for they are separated by a topographic barrier and also by a group of public buildings, constructed to withstand the wear and demand of many generations. These public buildings form a veritable urban "horst."

⁵West of the railroad yards and beyond the western border of the Location map.

